Panasonic

Operating Instructions

Colour Television

TC-33V30H
TC-29V30H
TC-25V30H
TX-33V30X
TX-29V30X
TX-25V30X
TX-33V30XE
TX-29V30XE
TC-29V30R
TC-25V30R

This is a combined Operating Instruction manual for all the above models.

Please read these instructions completely before operating this set and retain it for future reference.

TQB620883-1

Dear Panasonic Customer

Welcome to the Panasonic family of Customers.

We hope that you will have many years of enjoyment from your new colour television set.

To obtain the maximum from your new set, read these Instructions before making any adjustments and retain them for future reference.

AR(Anti-Reflection)Coating

The CRT screen is coated by a special material to hinder ambient light reflection and dust adherence.
Thereby, it realizes beautiful picture reproduction.
(The special coating renders the surface a purplish or bluish hue.)

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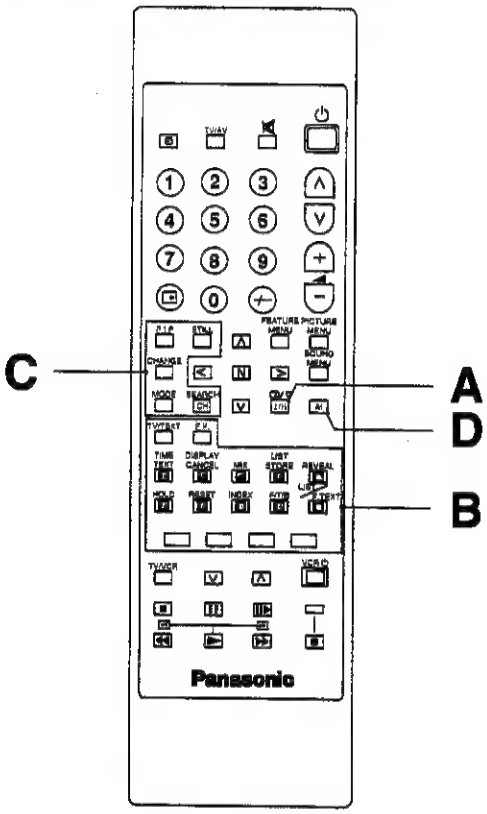
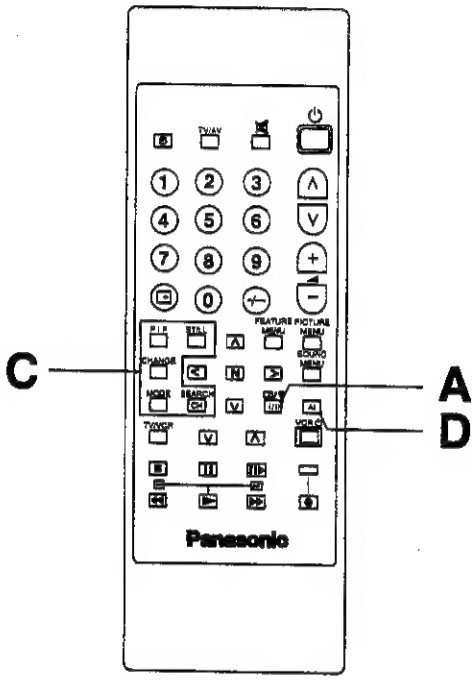
How to Use This Manual

First of all, please check the model number of your Remote Control Transmitter.
This manual applies to several models and there are slight differences among them. Please check the table below to see what your Remote Control Transmitter is equiped for, before you begin using these Operating Instructions.





Supplied Remote Control Transmitter	Model No.	Feature			
		A	B	C	D
		Stereo	Teletext	Picture in Picture	AI
EUR50756	TX-33V30X TX-33V30XE	*	*	*	*
EUR50757	TX-29V30X TX-29V30XE	*	*		*
EUR50758	TX-25V30X	*	*		
EUR50707	TC-33V30H	*		*	*
EUR50708	TC-29V30H	*			*
EUR50709	TC-25V30H	*			
EUR50710	TC-29V30R				*
EUR50711	TC-25V30R				

*: Function available

Note:

Parts number of remote control transmitter is located on back side of transmitter.

Quick Reference Guide for your TV Set

Please check the model number of your TV set.
This manual applies to several models and there are slight differences among them.

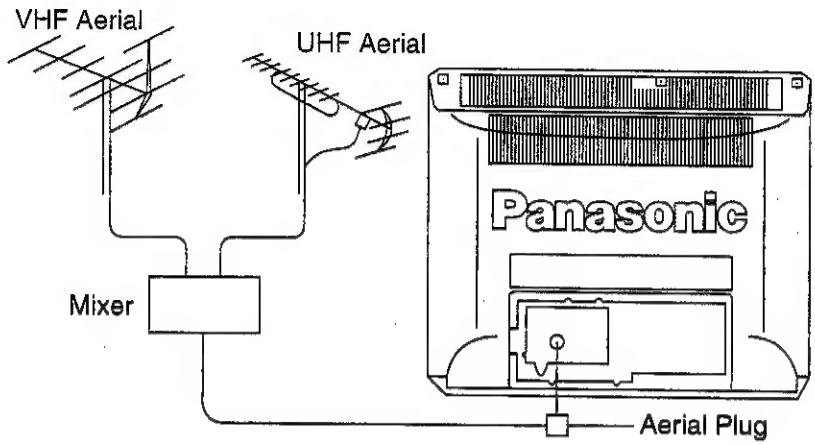
Please check the table below to see what your TV is equiped with before you begin using these Operating Instructions.

Feature		Model No. TC-33V30H	TC-29V30H	TC-25V30H	TC-29V30R	TC-25V30R	TX-33V30X	TX-29V30X	TX-25V30X	TX-33V30XE	TX-29V30XE	
TV Operation		*	*	*	*	*	*	*	*	*	*	TV Operation
AI		*	*		*		*	*		*	*	AI Operation
Stereo	NICAM	*	*	*			*	*	*			Stereo Operation
	A2 (German)						*	*	*	*	*	
	MONO				*	*						
Picture in Picture		*					*			*		Picture in Picture Operation
Teletext							*	*	*	*	*	Teletext Operation
Tuner	MULTI	*	*	*	*	*	*	*	*	*	*	Specifications
	OSCAR									*	*	
Power Source	WIDE (AC 110-240 V)	*	*	*	*	*	*	*	*	*		
	SINGLE (AC 220 V)										*	
Audio Output	12 W×2	*	*		*		*	*		*	*	
	7 W×2			*		*			*			

*: Function available

In this manual, the instructions are given for the model with maximum functions.
Please disregard information in this manual which does not apply to your TV.

Connect the Aerial Cable to the RF In Terminal

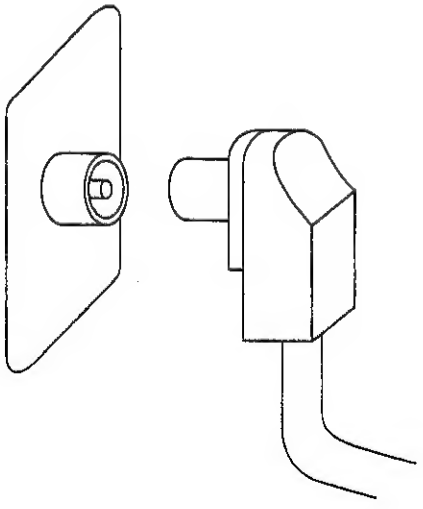


To obtain the optimum quality picture and sound, an Aerial, the correct cable (75 Ohm coaxial) and the correct terminating plug will be required.

If a communal Aerial system is used, you may require the correct connection cable and plug between the wall Aerial socket and your television receiver.

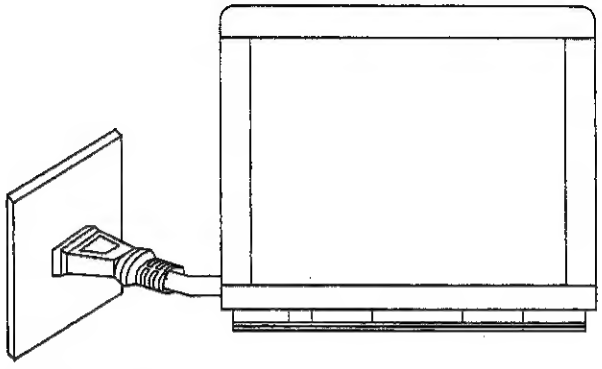
Your local Television Service Centre or Dealer may be able to assist you in obtaining the correct Aerial system for your particular area and any accessories required.

Any matters regarding Aerial installation, upgrading of existing systems or accessories required, and the costs incurred, are the responsibility of you, the customer.



75 Ohm Coaxial Cable

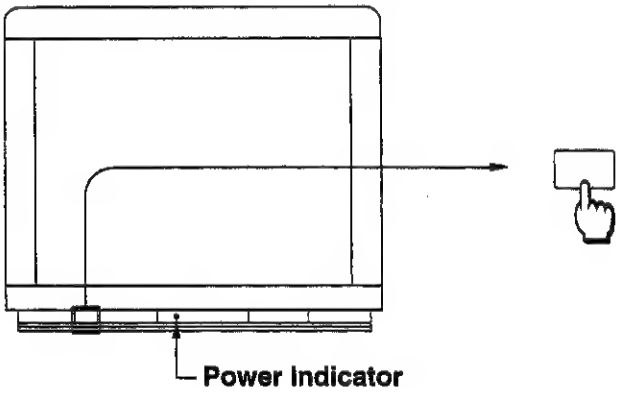
Connect the Plug to the wall outlet



(e.g. A2 Type Plug)

For Power Source details, refer to page 7.

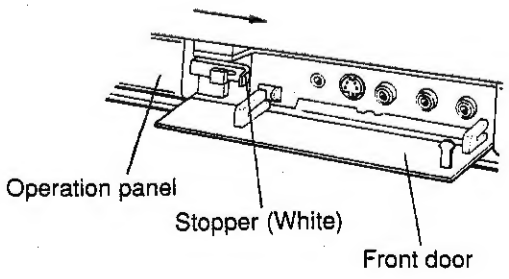
How to Turn the Power On



Push the Power switch on the Television to turn the set on.

The Power Indicator will light.

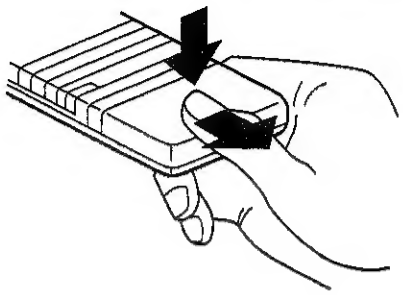
Note:
When in the stand-by condition, it is possible to turn the TV set on by pushing the "Power (Stand-by)" Button, any of the "Direct Programme Number Selection" Buttons (0–9) and Programme Number Up and Down Buttons on the TV set or Remote Control Transmitter.



Note:
To open the operation panel, remove the stopper inside the front door first.

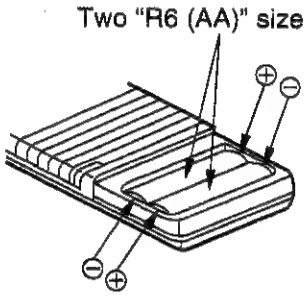
Battery Installation and Replacement

1



Open the cover.
A slight downward pressure while pulling towards the bottom will ensure easy removal.

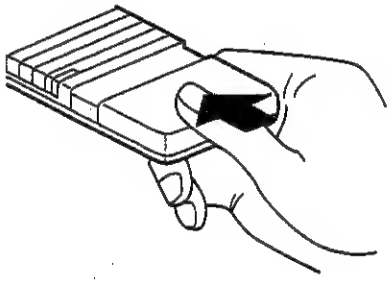
2



Batteries: Use two "R6 (AA)" size batteries.

Replace the batteries.
Insert the batteries ensuring the correct polarity is obtained. This is identifiable by the "+" and "–" symbols on both the batteries and inside the Remote Control Transmitter Battery compartment.

3



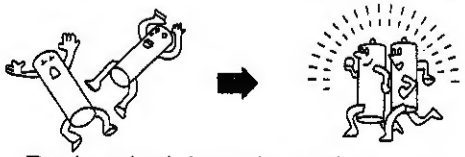
Replace the cover.

Do not use rechargeable (Ni-Cd) batteries.
They are partially different in shape and performance and may fail to ensure the correct operation.

Battery precautions

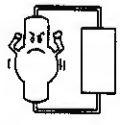
The incorrect use of batteries can cause electrolyte leakage which will corrode the remote control transmitter or cause the batteries to burst. The following precautions must be observed carefully.

Old Batteries New Batteries



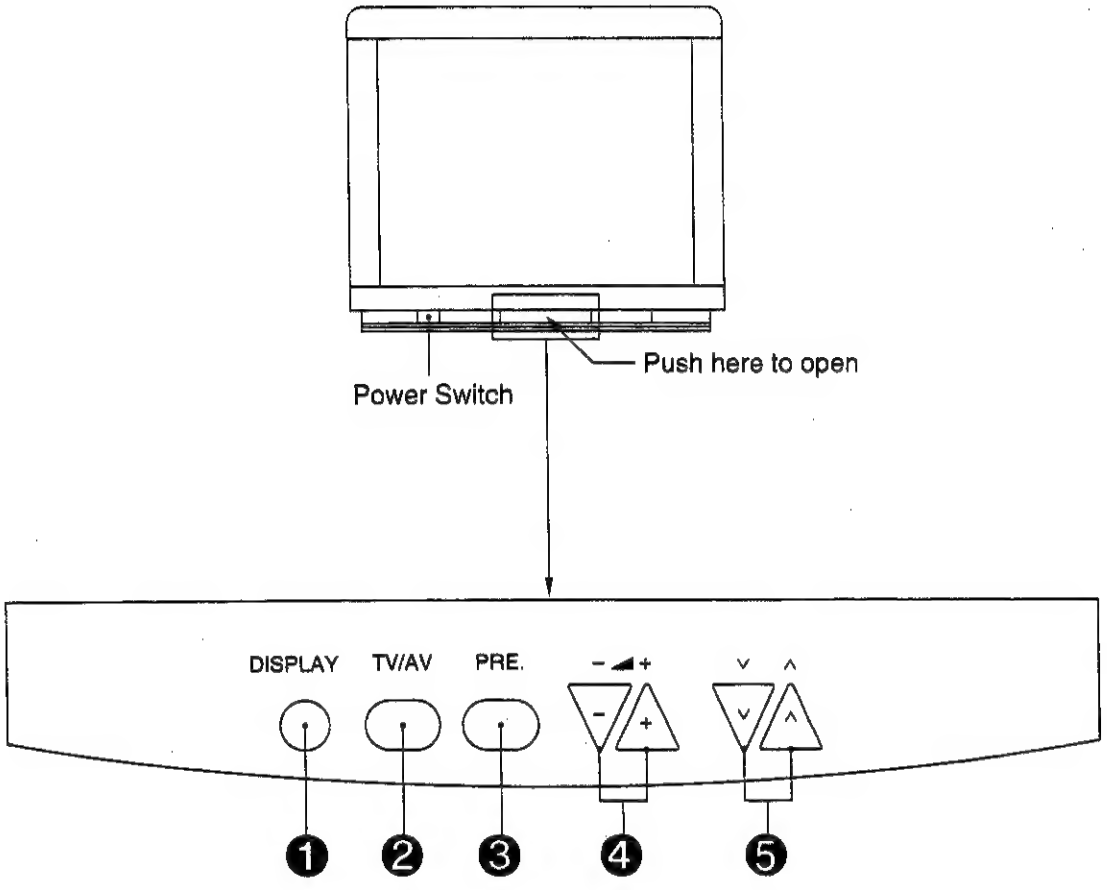
Replace both batteries at the same time.

Don't mix battery types (alkaline with carbon zinc, etc.)



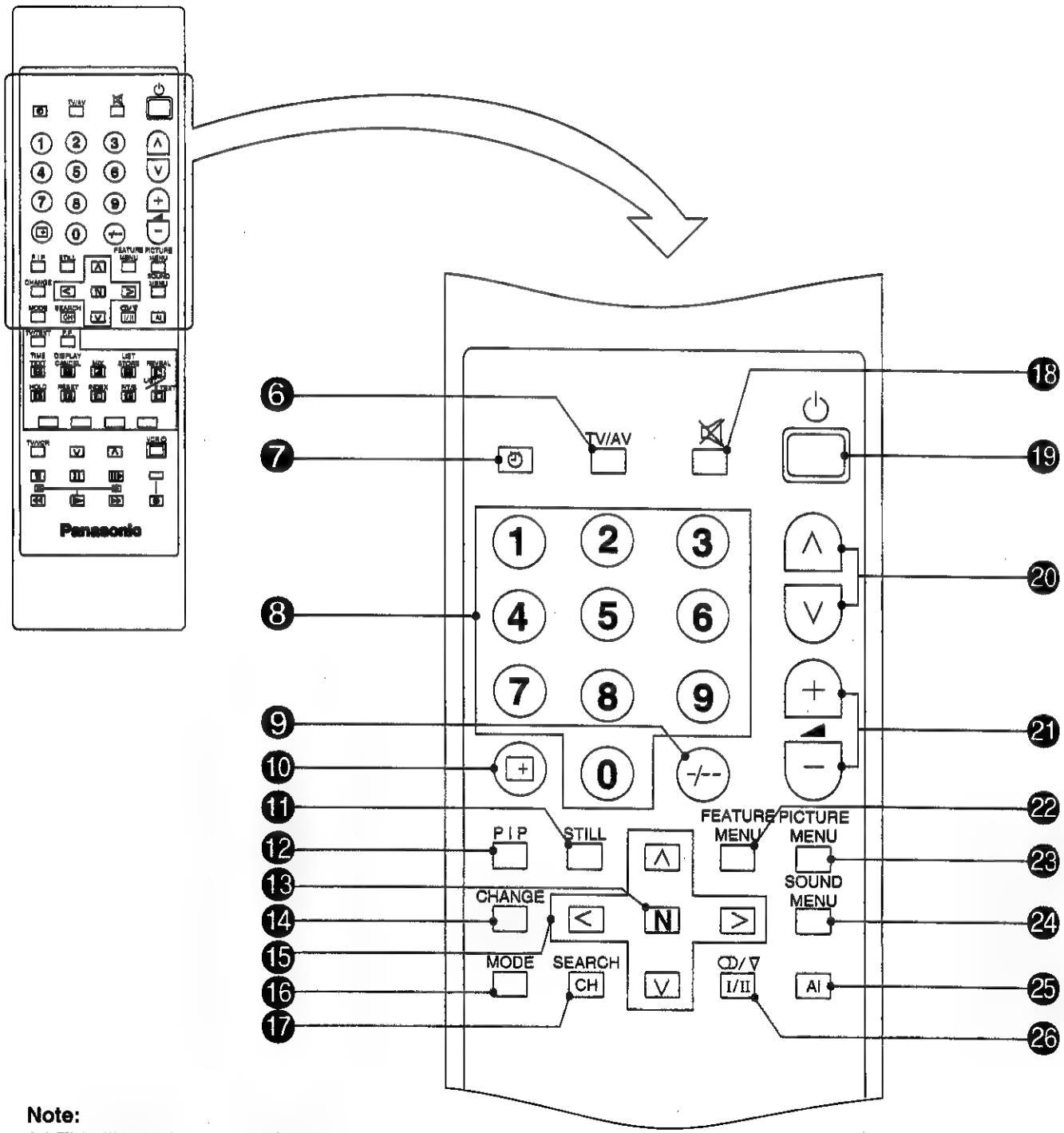
Don't Recharge.

Television Set



Item No.	Key	Function	Refer to Page
1	DISPLAY	Display Button	34
2	TV/AV	TV/AV Selection Button	34
3	PRE.	Preset Button	22
4	− +	Volume Up and Down Buttons	34
5	∨ ∧	Programme Number Up and Down Buttons	32

Remote Control Transmitter (TV)



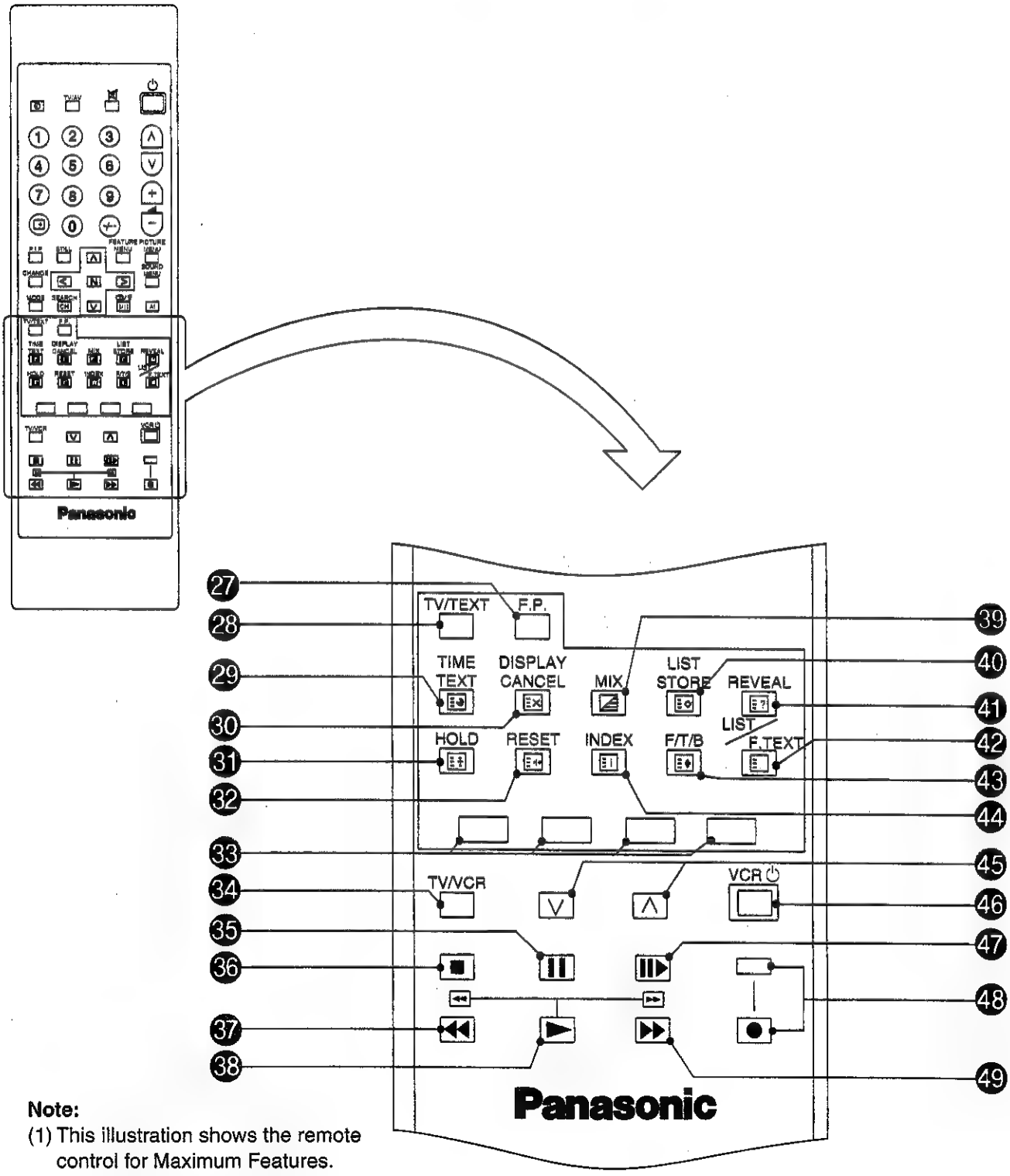
Note:

(1) This illustration shows the remote control for Maximum Features. (Remote Control No. EUR50756)

(2) The buttons shaded are not present for models not equiped with certain features.

Item No.	Key	Function	Refer to Page
6	TV/AV	TV/AV Selection Button	34
7		OFF Timer Button	36
8	0 1 ... 9	Direct Programme Number Selection Buttons	32
9	-/--	Two Digit Programme Numbers Button	32
10		Recall Button	36
11	STILL	Still Button	52
12	PIP	Picture in Picture Button	52
13	N	Normalisation Button	44
14	CHANGE	Change Button	52
15	< > ∧ ∨	Position Buttons	44
16	MODE	Mode Selection Button	52
17	SEARCH CH	Channel Search Button	52
18		Mute Button	36
19		Power (Stand-by) Button	32
20	∧ ∨	Programme Number Up and Down Buttons	32
21	+ -	Volume Up and Down Buttons	34
22	FEATURE MENU	Feature Menu Button	44
23	PICTURE MENU	Picture Menu Button	42
24	SOUND MENU	Sound Menu Button	42
25	AI	AI ON/OFF Button	34
26	I/II	Stereo/Bilingual Sound Selection Button	40

Remote Control Transmitter (Teletext, VCR)



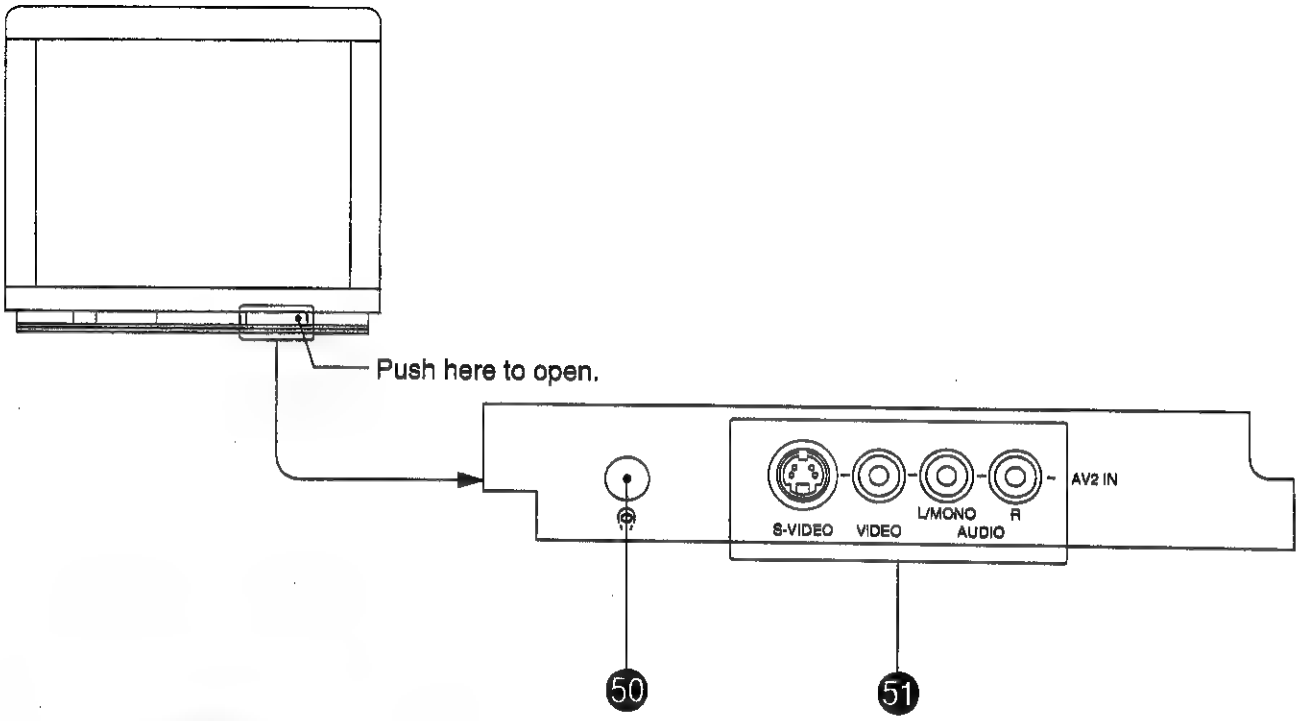
Note:

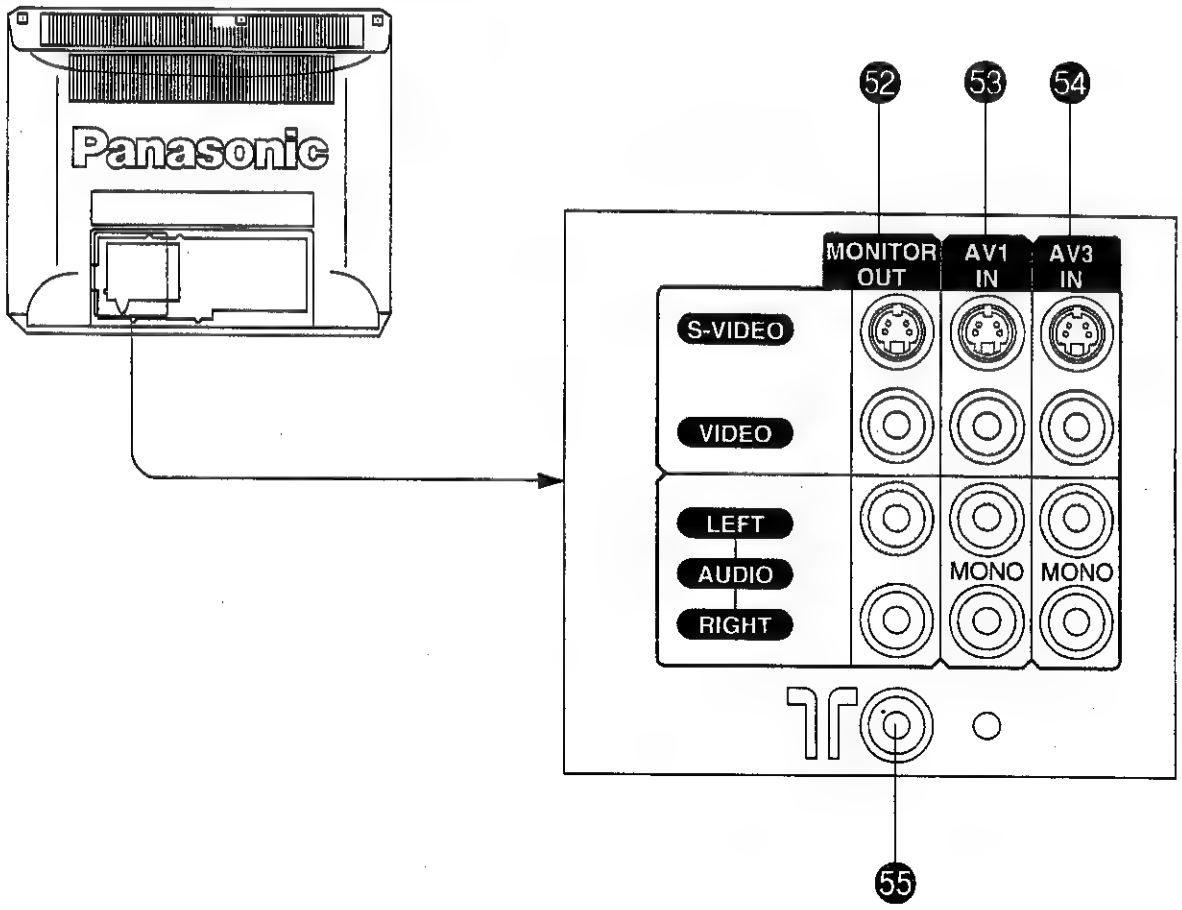
(1) This illustration shows the remote control for Maximum Features. (Remote Control No. EUR50756)

(2) The buttons shaded are not present for models not equiped with certain features.

Item No.	Key	Function	Refer to Page
27	F.P.	Favourite Page Selection Button	65
28	TV/TEXT	TV/TEXT Selection Button	54
29	TIME TEXT	Time Text Button	56
30	DISPLAY CANCEL	Display Cancel Button	56, 58, 63
31	HOLD	Hold Button	64
32	RESET	Reset Button	64
33		Colour-coded Buttons	60, 62
34	TV/VCR	TV/VCR Selection Button	66
35		Pause Still Button	66
36		Stop Button	66
37		Rewind/Review Button	66
38		Play Button	66
39	MIX	Mix Button	64
40	LIST STORE	List Store Button	60
41	REVEAL	Reveal Button	65
42	LIST/F.TEXT	LIST/F. TEXT Button	60, 62
43	F/T/B	Full/Top/Bottom Button	54
44	INDEX	Index Button	54
45		Programme Number Up and Down Buttons for VCR	66
46	VCR ⏻	VCR Power Button	66
47		Still Advance Button	66
48		Record Buttons	66
49		Fast Forward Button	66

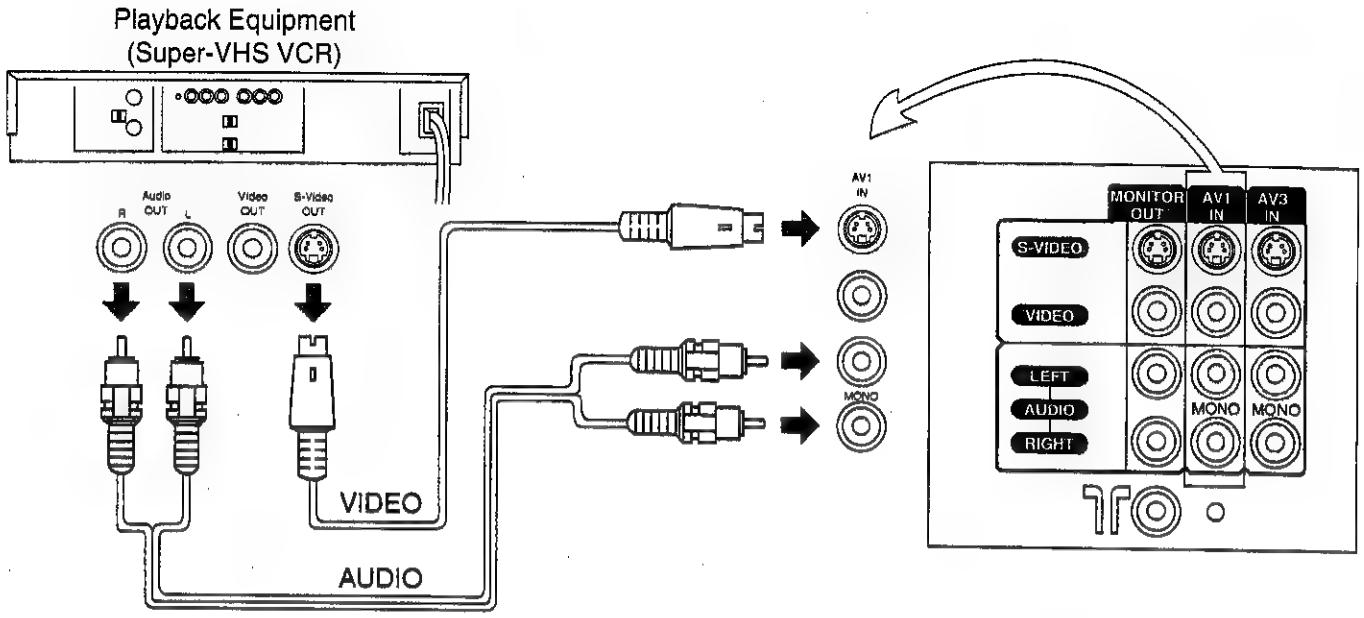
AV Terminals



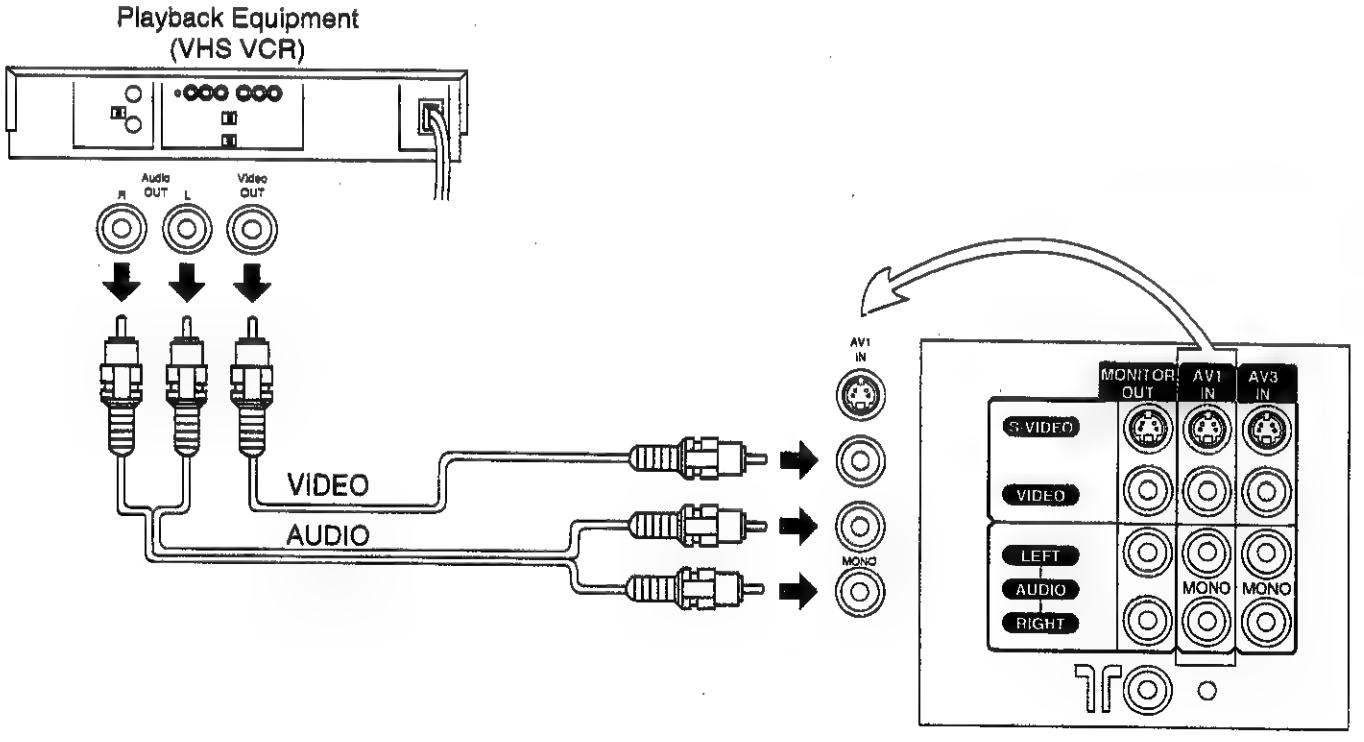


Reference No.	Description	Refer to Page
50	Headphones Jack	20
51	AV2 Input Terminals	18
52	Monitor Output Terminals	19
53	AV1 Input Terminals	18
54	AV3 Input Terminals	18
55	Aerial Terminal	8

How to connect the "AV1, 2 or 3" (S-Video and Audio) Terminals with other equipment.



How to connect the "AV1, 2 or 3" (Video and Audio) Terminals with other equipment.



Note:

(1) When an AV mode (AV1, AV2 or AV3) is selected, and the selected AV mode has no input signal, the Background Colour of the TV screen will change. (Refer to page 39 for details of the Colour System.)

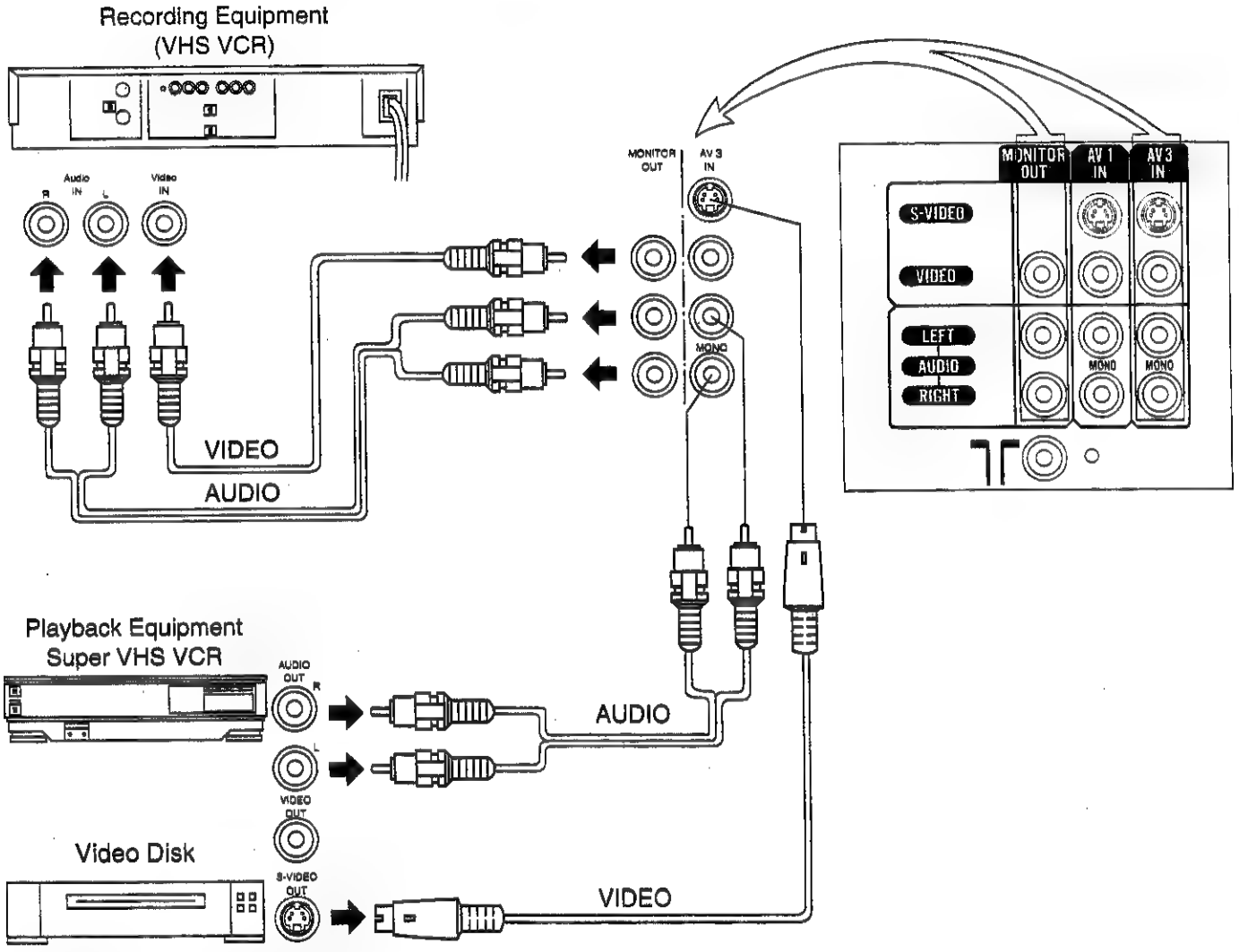
(2) When the S-Video cable is connected to the S-Video terminal, the Phono Video Input will be automatically switched off for that AV mode.

(3) When a Monaural VCR is used, connect the Monaural Audio cable to the Audio "L" (Left) terminal.

(4) Connections are available at AV IN 1, 2, 3 positions.
Select the desired AV input position by pushing the TV/AV button.

How to connect "Playback" Equipment and "Recording" Equipment with the TV set.

The "Monitor Out" Terminals contain signals which are on the TV screen at that time, e.g. TV programmes or signals from AV2 or AV3 input.



Playback Operation

1. Select the desired AV mode. In the case illustrated above, the AV3 mode.
2. Push the "PLAY" Button on the connected Playback Equipment.

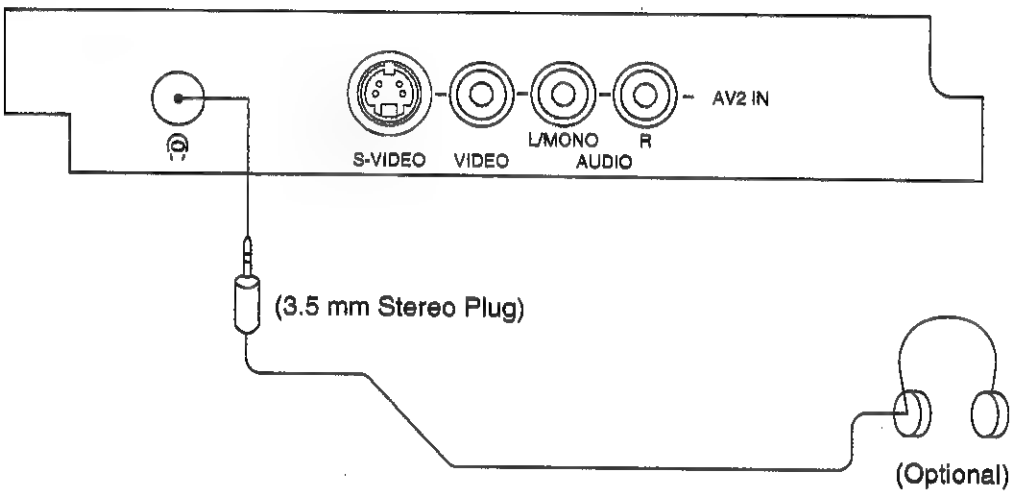
Note:

1. Never connect the same video recorder with both the VIDEO IN and VIDEO OUT Terminals on this TV set, as this could cause incorrect operation.
2. When connecting with a VCR having a built-in S-Video terminal, S-Video monitor signal will not be outputted.
3. AV1 Input signals will not be outputted.
4. Picture in Picture signals will not be outputted.

Connecting the Headphones

Connect headphones as follows.

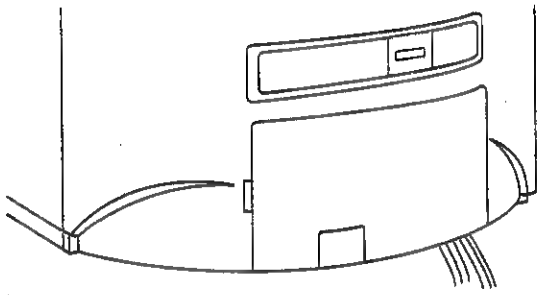
When a Headphones plug is inserted into the Headphones socket all speakers will be automatically disconnected; only the Headphones will function.



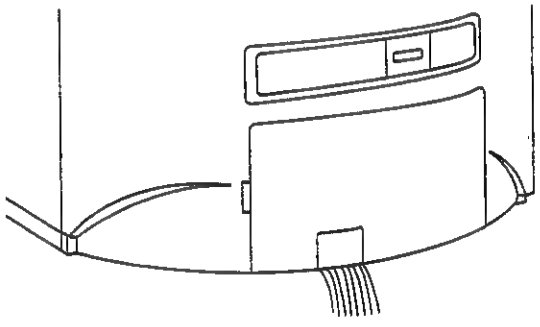
Connection Cable Arrangement (Only for TX-29/33V30 Series, TC-29/33V30 Series)

The cables, after being connected, can be arranged in one of three basic ways.

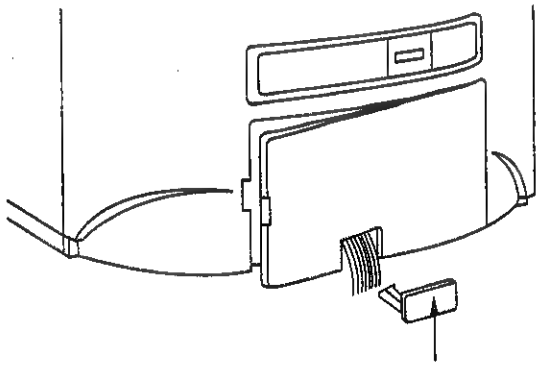
1 This method is suitable for a moderate number of cables.



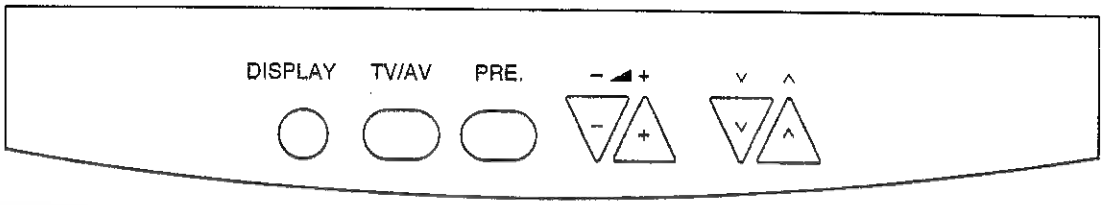
2 This method may be used for a smaller number of cables.



3 Detatch the clip-out piece to accommodate the maximum number of cables.



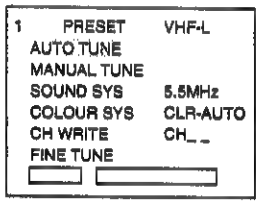
Automatic Search



This TV set will search automatically through all of the VHF and UHF bands.
After completion, the best tuning position is automatically memorized on each Programme Number sequentially.

1

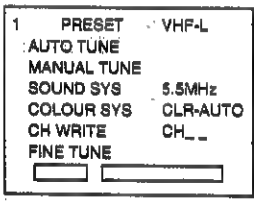
Push the "PRE." (PRESET) Button.



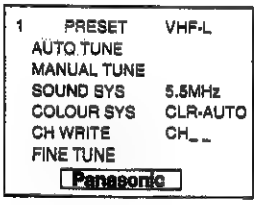
Automatic Search (AUTO TUNE) Condition.

2

Push the Volume Up "+" or Down "–" Button.



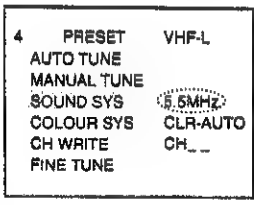
Search Start.



The best tuning position is automatically memorized.

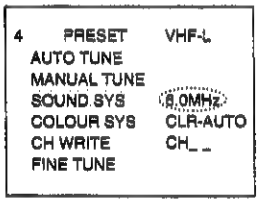
3

After all stations are tuned, the on-screen display will automatically change from "AUTO TUNE" to "SOUND SYS" Position. Confirm the sound condition of each Programme Number Position by using the Programme Number Up "^" Button.
If the Sound is not clear or no sound is produced on a Programme Number Position, then follow the next step, Step 4.



4

If necessary, push the Volume Up "+" or Down "–" Button, to improve the Sound quality.



The sound indicator will change as follows.

→4.5MHz↔5.5MHz←
→6.5MHz↔6.0MHz←

5

Use the Programme Number Up "∧" button to sequentially check each station.
If necessary, repeat step 4 for each Programme Number Position.

6

After all stations are tuned, push the "PRE." (PRESET) Button four times.

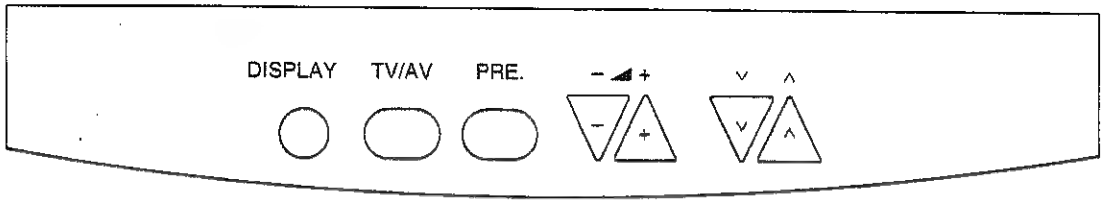
This returns the set to the normal viewing condition. A maximum of 29 channels can be programmed.

Helpful Hint

(1) If a clear picture cannot be obtained even when a Broadcast or AV signal is received, refer to the "Colour system selection" Operation on page 39.
(2) After the Automatic Search is finished, push the Programme Number "Up" Button to confirm the tuning condition for each Programme Position. If a Programme Position is unused, it is possible to skip such Programme Numbers.
Please refer to the Programme Number Skip Operation on page 28.
(3) If you would like the station name on the screen display together with the Programme Position, refer to the Programme Name Writing Operation on pages 30 and 31 for operation details.
(4) You can select the desired menu.
Preset Menu will change as follows.

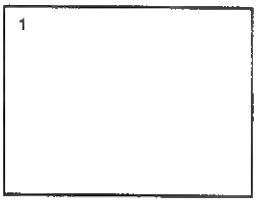
→AUTO TUNE→MANUAL TUNE→SOUND SYS→COLOUR SYS→CH WRITE→
TV Mode←FINE TUNE←

Manual Search



1

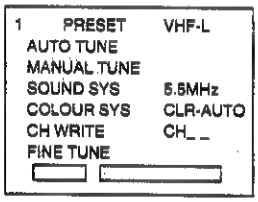
Push either the Programme Number Up "∧" or Down "∨" Button.



Select the desired Programme Position.

2

Push the "PRE." (PRESET) Button twice.

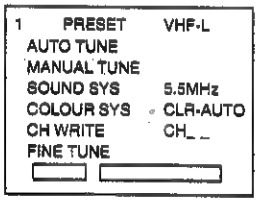


Manual Search Condition.

3

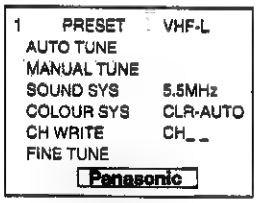
Push the Volume Up "+" or Down "–" Button.

Volume "+": Next higher Channel



Search Start.

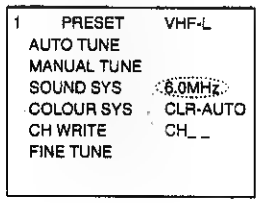
Volume "–": Next lower Channel



The best tuning position is automatically memorized.

4

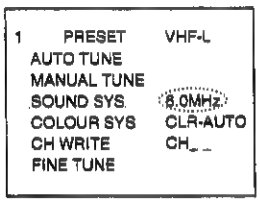
Push the "PRE." (PRESET) Button.



Sound System Condition.

5

If the sound is not clear or no sound is produced on a Programme Number Position, push the Volume Up "+" or Down "–" Button.



You may improve the Sound quality.

The sound indicator will change as follows.

→ 4.5MHz ↔ 5.5MHz ←
↳ 6.5MHz ↔ 6.0MHz ↲

6

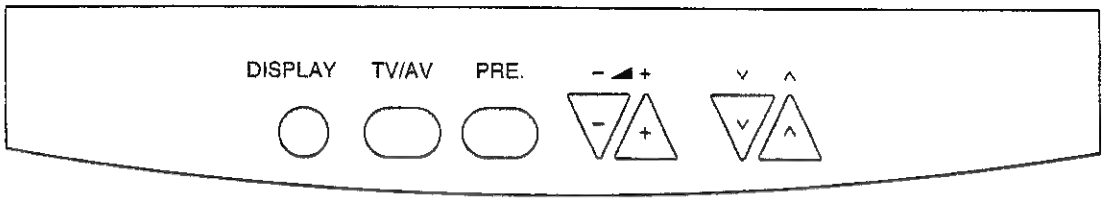
Push the "PRE." (PRESET) Button 4 times.

This returns the set to the normal viewing condition.

Helpful Hint

(1) If a clear picture cannot be obtained even when a Broadcast or AV signal is received, refer to the "Colour system selection" Operation on page 39.
(2) After the Manual Search is finished, push the Programme Number "Up" Button to confirm the tuning condition for each Programme Position. If a Programme Position is unused, it is possible to skip such Programme Number. Please refer to the Programme Number Skip Operation on page 28.
(3) If you would like the station name on the screen display together with the Programme Position, refer to the Programme Name Writing Operation on pages 30 and 31 for operation details.

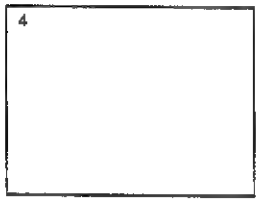
Fine Tuning Operation



Under normal reception conditions this function is not used.
However, in areas of poor reception or constant interference, a slight adjustment of the tuning may improve the picture and sound quality.

1

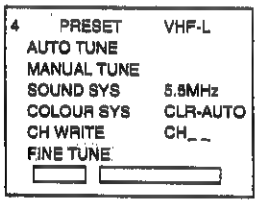
Select the channel which you want to improve.



Select the desired Programme Position.

2

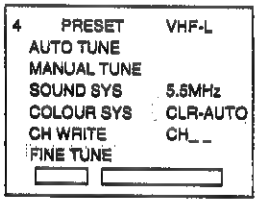
Push the "PRE." (PRESET) Button 6 times.



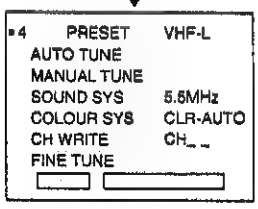
Fine Tune Condition.

3

Push and hold the Volume Up "+" or Down "–" Button until the clear picture is received.



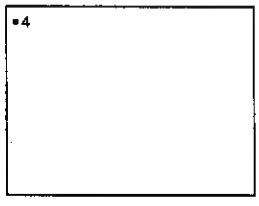
Fine Tune Start.



The AFC function is deactivated.
The "■" symbol appears to the left of the Programme Number.

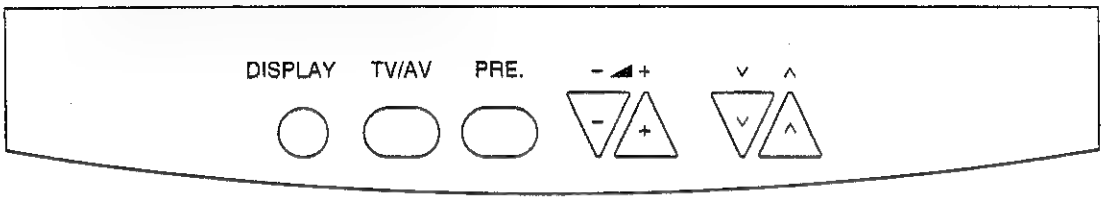
4

Push the "PRE." (PRESET) Button.



This returns the set to the normal viewing condition.

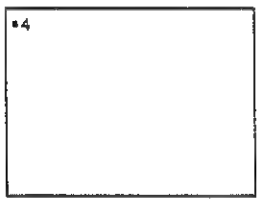
Fine Tuning Cancel Operation



Activating the AFC (Automatic Frequency Control) Function.

1

Select the "AFC OFF" Programme Number which you want to cancel.

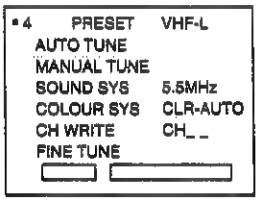


When the "AFC OFF" Programme Number is selected, the "■" symbol appears to the left of the Programme Number.

2

PRE.

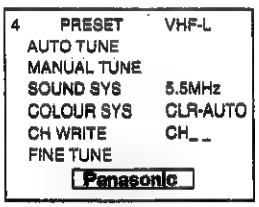
Push the "PRE." (PRESET) Button twice.



Manual Search Condition.

3

Push the Volume Up "+" or Down "–" Button, briefly.

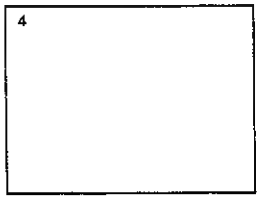


The best tuning position is automatically memorized.

4

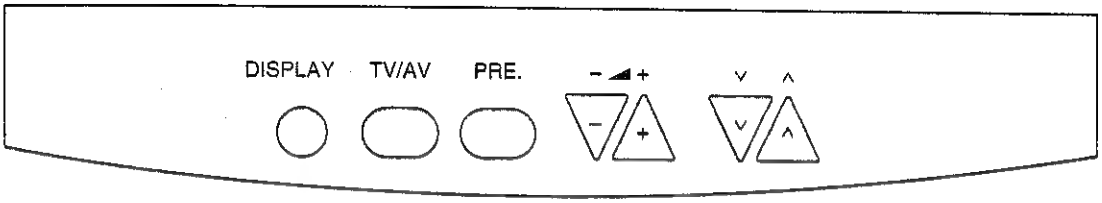
PRE.

Push the "PRE." (PRESET) Button 5 times.



This returns the set to the normal viewing condition.

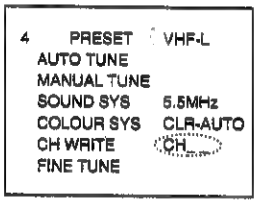
Programme Number Skip Operation



This function makes it possible to skip Programme Numbers on which no TV stations are tuned.
This function is only effective when selecting TV stations by pushing the Programme Number Up or Down Buttons either on the TV set or the Remote control.

1

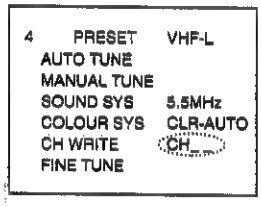
Push the "PRE." (PRESET) Button 5 times.



Channel Write Condition.

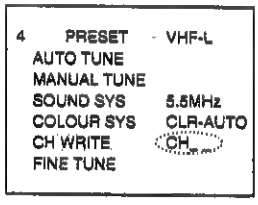
2

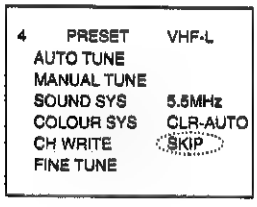
Select a Programme Number you want to skip.



3

Push the Volume Down "–" Button.





The on-screen indicator will change from "CH_ _" to "SKIP".
The SKIP function is now set.

4

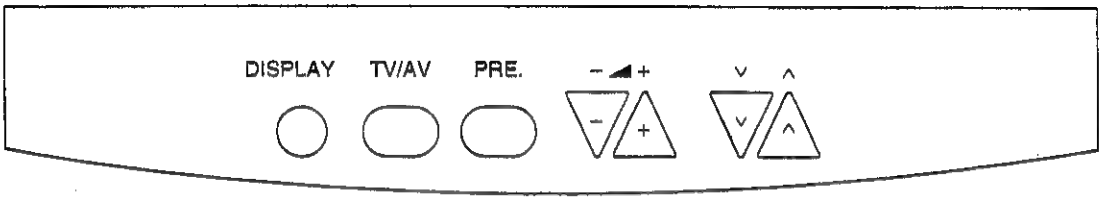
Repeat Steps 2 and 3 for the remaining Programme Numbers for which the Skip function is desired.

5

After the Skip Operation is completed, push the "PRE." (PRESET) Button twice.

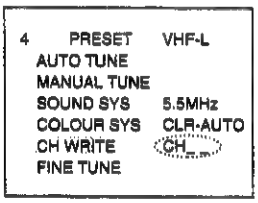
This returns the set to the normal viewing condition.

How to Cancel the Skip Function



1

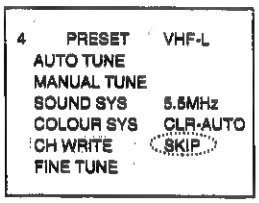
Push the "PRE." (PRESET) Button 5 times.



Channel Write Condition.

2

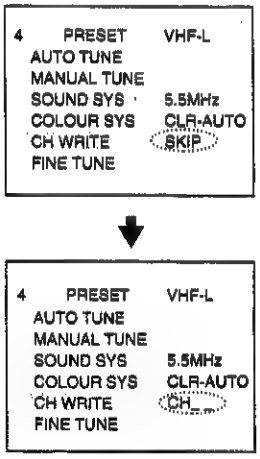
Select the skipped Programme Number.



The "SKIP" indicator will appear on the screen.

3

Push the Volume Up "+" Button.



The on-screen indicator will change from "SKIP" to "CH_ _".
The skip function is now cancelled.

4

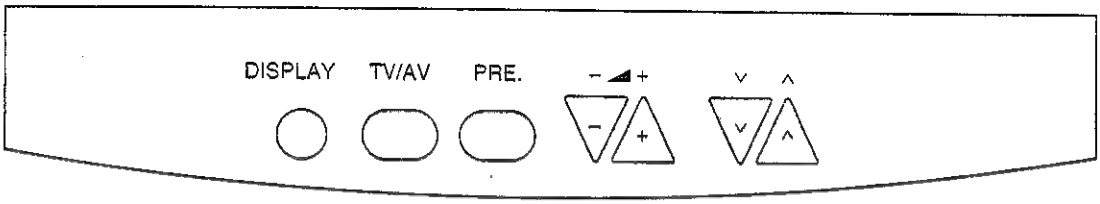
Repeat Steps 2 and 3 for the remaining Programme Position, if you wish to cancel the skip function on any other Programme Number Positions.

5

After the Skip Cancel Operation is completed, push the "PRE." (PRESET) Button twice.

This returns the set to the normal viewing condition.

Programme Name Writing Operation



This function is used, if you want to write a Programme Name on each Programme Number.
The programme Name will be displayed under the Programme Number.
You can understand easily which TV Programme is now received, by adding a Programme Name.

1

Push the "PRE." (PRESET) Button 5 times.

```
7    PRESET    VHF-L
  AUTO TUNE
  MANUAL TUNE
  SOUND SYS     5.5MHz
  COLOUR SYS    CLR-AUTO
  CH WRITE      CH_
  FINE TUNE
```

Channel Write Condition.

2

Select the Programme Number, for which you wish to add a Programme Number.

```
7    PRESET    VHF-L
  AUTO TUNE
  MANUAL TUNE
  SOUND SYS     5.5MHz
  COLOUR SYS    CLR-AUTO
  CH WRITE      CH_
  FINE TUNE
```

3

By pushing this button, you can select one of the four character positions.

```
7    PRESET    VHF-L
  AUTO TUNE
  MANUAL TUNE
  SOUND SYS     5.5MHz
  COLOUR SYS    CLR-AUTO
  CH WRITE      CH_ _
  FINE TUNE
```

Each time this button is pushed, the next character position selected will be flashing.

CH_ _ Flashing

4

Select your desired character by pushing these buttons.
Repeat Step 3 to select the next character position.

```
7    PRESET    VHF-L
  AUTO TUNE
  MANUAL TUNE
  SOUND SYS     5.5MHz
  COLOUR SYS    CLR-AUTO
  CH WRITE      ABC_
  FINE TUNE
```

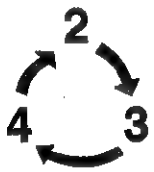
When the left hand character is flashing, the character will be changed as follows.

→0 ↔ 1...9↔ A....Z ↔ – ←
→ CH_ _ ↔ SKIP ←

When the 2nd, 3rd, or 4th characters are flashing, the character will be changed as follows.

→0 ↔ 1...9↔ A....Z ↔ – ←

5



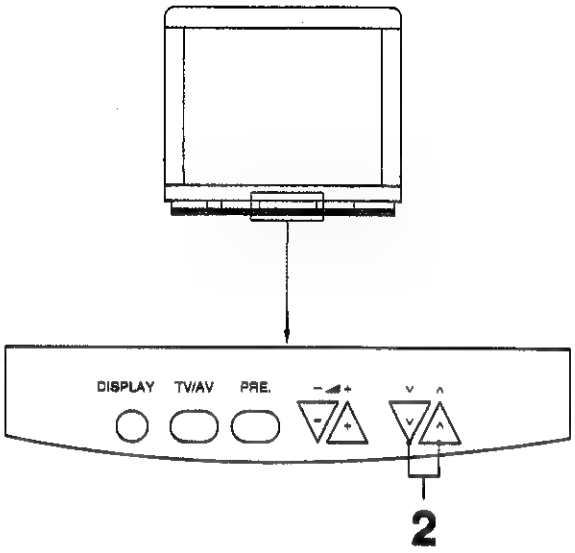
Repeat Steps 2 through 4 for the remaining Programme Positions, for which you wish to add a programme Number.

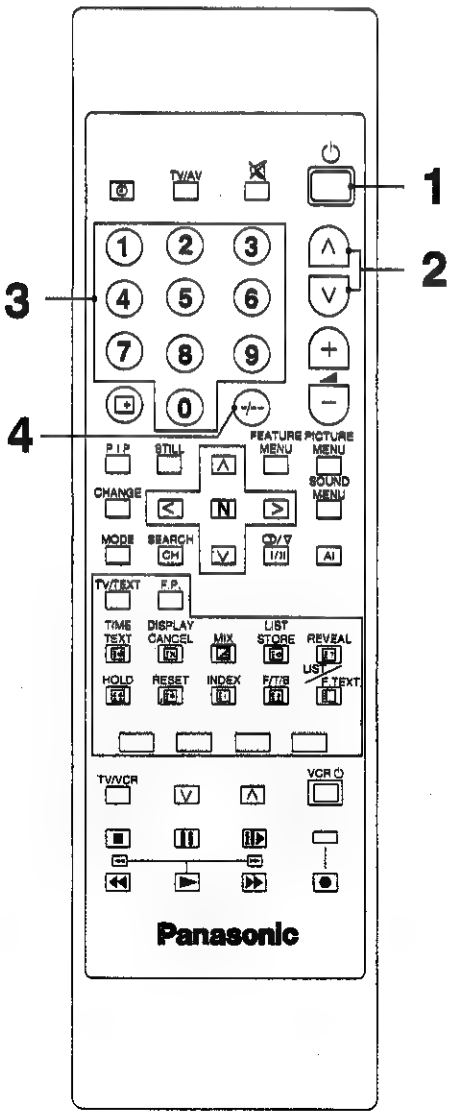
6

PRE.

After the Programme Name Writing Operation is completed, push the "PRE." (PRESET) Button twice.

This returns the set to the normal viewing condition.



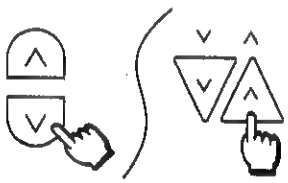


1

(TV set must be turned on.)
How to switch the power ON or OFF
Push this button to turn the TV set on.

Push it again to turn the TV set off.

2



Programme Number Selection
Push the Programme Number Up "∧" or Down "∨" Button to select the next higher or lower tuned channel.

3

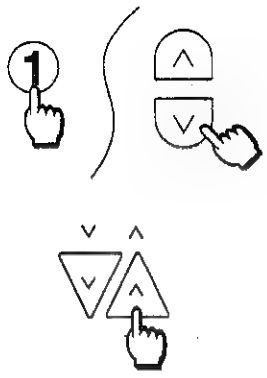
Direct Programme Number Selection
(Programme Number 0-9)
e.g. To select Programme Number "7", push the "7" Button.

4

Two Digit Programme Number Selection
e.g. To select Programme Number "24".
Push the "-/- -" Button.

Push the "2" Button.

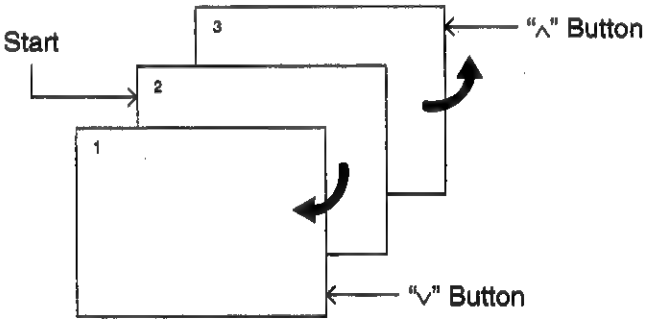
Push the "4" Button.



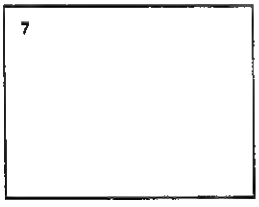
It is also possible to turn the TV set on by pushing the "Direct Programme Number Selection" Buttons (0–9) and the "Programme Number Up or Down" Button.

Note:

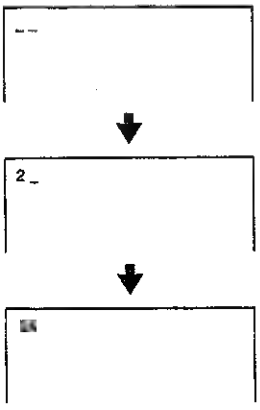
1. Do not leave the television in the Stand-by condition for extended periods of time.
   It is also recommended that you turn the Television Off, for a short (approximately 1 hour) period, using the Main Power ON/OFF Switch periodically (e.g. weekly).
2. This allows, when the television is again turned on, the Automatic Demagnetization of the picture tube to be carried out.
   If the television is not turned Off at the Power switch for an extended period, poor picture Colour Quality may become evident through residual magnetism within the picture tube.



Note:
If the SKIP function has been set in either the next higher or lower Programme Number, then that skipped Programme Number will not be shown.

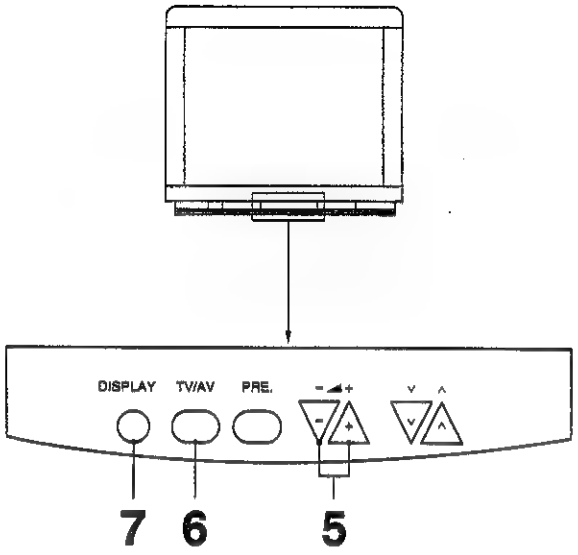


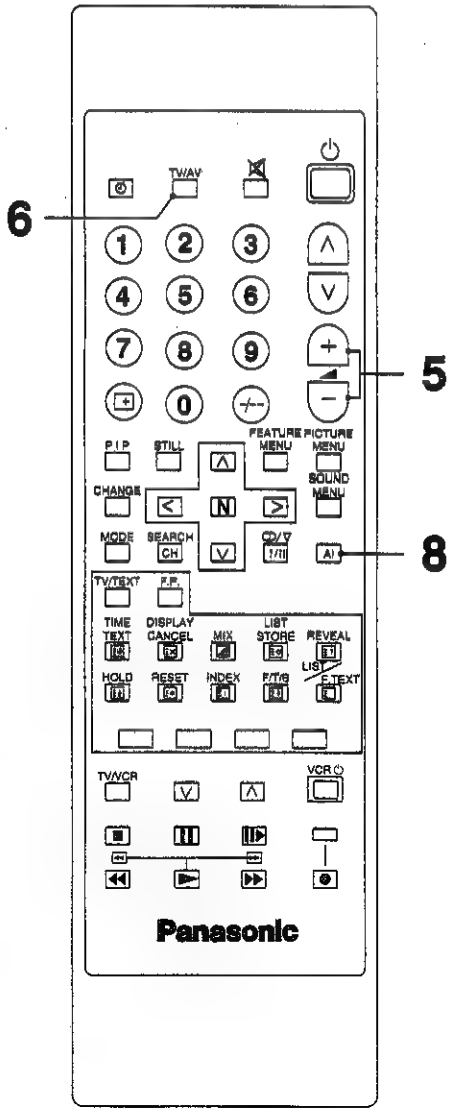
You can select the numbers 0 to 9 directly, by pushing the corresponding number.



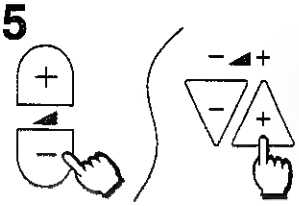
You can select a two Digit Programme Number.

Continued on the next page. ➔



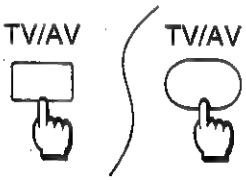


5



Volume Adjustment
Push the Volume Up "∧" or Down "∨" Button to increase or decrease the sound volume level.

6



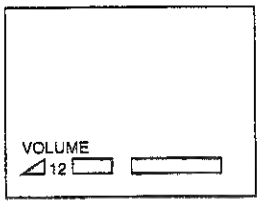
TV/AV Selection
Push the "TV/AV" Button to select TV, AV1, AV2, AV3 input signal modes.

7

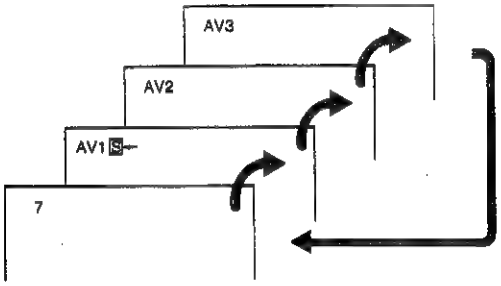
Display Button
By pushing the display button various demonstrations and on-screen displays will appear.

8

AI Button
As the TV video signal is processed for immediate reception, "Brightness", "Contrast", "Shade of colour", etc. are automatically adjusted to the optimum conditions.
Each frame is finely and automatically adjusted to compensate for the pictures characteristics thereby achieving contrast with optimum field of depth, and vivid colour tones.



Note:
The on-screen display will indicate both numerically and graphically the volume level. Numeric levels start at "0" for zero on no sound, and will increase up to 63 which is the maximum sound level.



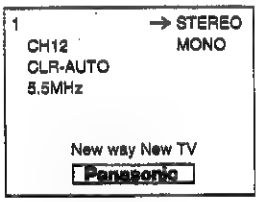
You can sequentially select TV and three AV modes (AV1, AV2 and AV3).

Note:

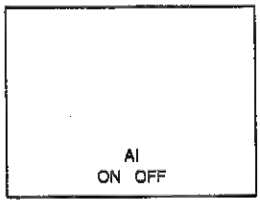
(1) When the S-Video cable is connected to the "S-Video" Terminal, the "S-Video" symbol will be displayed on the screen as shown for AV1 at left.
e.g. In the diagram AV1 S-Video Terminal has an input connection.

(2) When AV mode (AV1, AV2 and AV3) is selected and the selected AV mode has no AV signal, the Background colour of the TV screen will appear according to the receiving Colour System. (Refer to page 39 for details of Colour System.)

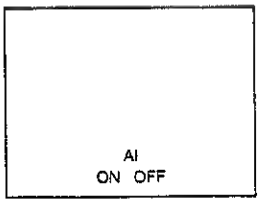
(3) When TV mode is selected, the last Programme Number will appear on the screen.



Note:
When this button is pushed, the Picture and Sound menu will change to Picture 2 (DYNAMIC) and Sound 2 (MUSIC). And each level will be changed to Normal mode. For Picture and Sound menu details, refer to Picture and Sound Operation on pages 42 through 45.

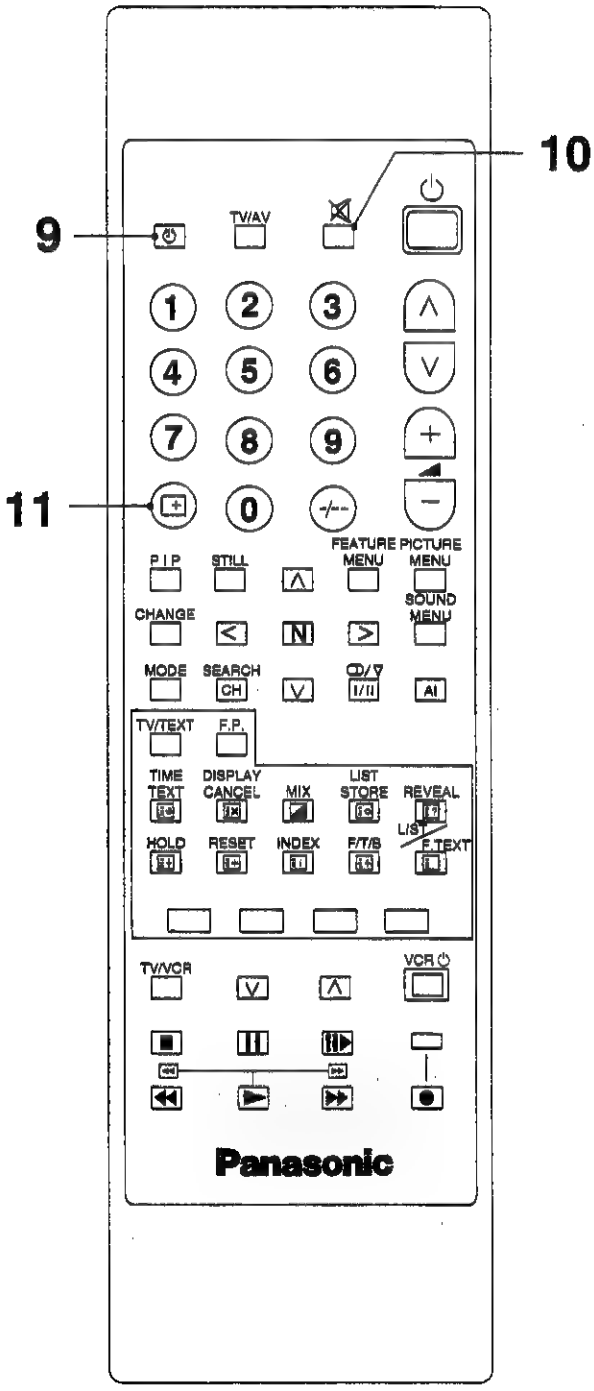


ON is highlighted → Activate



OFF is highlighted → Not Activate

Continued on the next page. →



9

Off Timer Button
The TV set may be preset to switch off after a fixed period.

To confirm the remaining time, push the "Recall" Button.

10

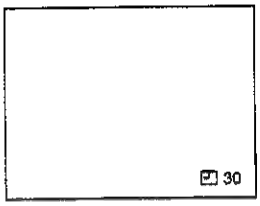
Mute Button
Push this button once to mute the sound by 50%.

Push this button again to mute the sound completely.

Push this button once again to restore the previous sound level, and cancel the mute.

11

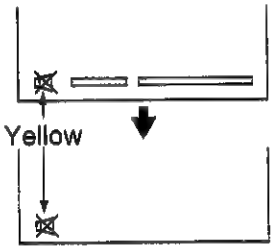
Recall Button
Push the "Recall" Button.
Push again to cancel.



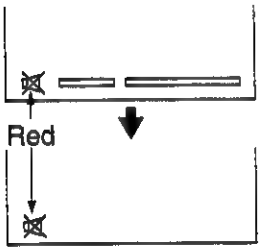
By pushing "OFF-Timer" Button, you can select the preset time either the "30", "60" or "90" minutes.

30 → 60 → 90
↑ 0 ←

Note:
The Pre-set time may be cancelled by setting the Preset time condition to "0" using the "Off timer" Button, or by switching the set OFF.
Off Timer clock will flash prior to automatic turn off.

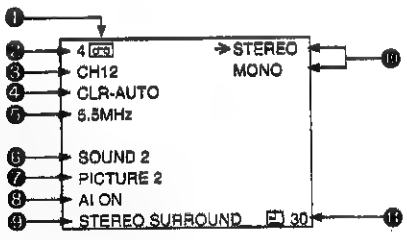


The on-screen display will appear Yellow for 2-3 seconds, followed by the Yellow mute symbol, which will remain while the mute function is active.

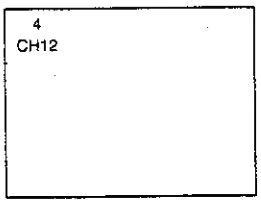


The previous sound level will appear in Red.
The "Mute" symbol will remain unchanged.

Note:
In the "Mute" condition, you can use the Volume "Down" Button, which won't cancel the mute function.
Using the Volume "Up" Button, the "Mute" will be cancelled.

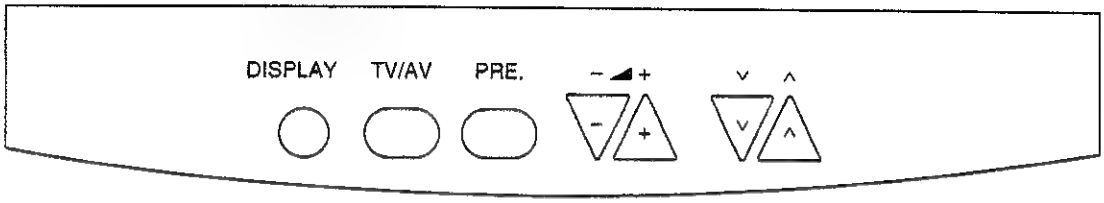


❶ VCR/GAME Indicator
❷ Programme Position Number
❸ Programme Name
❹ Colour System
❺ Sound System
❻ Sound Menu
❼ Picture Menu
❽ AI on or off
❾ Surround Mode
❿ Audio Mode
⓫ Off Timer



The Programme Number and Programme Name will remain.

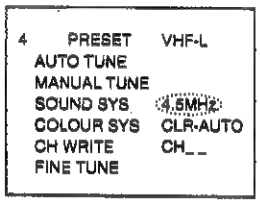
Sound System Selection



1

PRE.

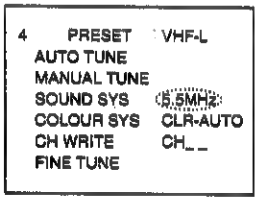
(This function is used only in the TV mode.)
When the Sound is not clear or no sound is produced on a Programme Number Position, push the "PRE." (PRESET) Button 3 times.



Sound System Selection mode.

2

Push the Volume Up "+" or Down "–" Button repeatedly until the optimum sound is obtained.



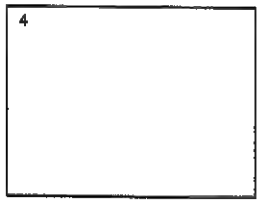
You may improve the sound condition.
The sound system will change as shown.

→ 4.5MHz ↔ 5.5MHz ↵
↵ 6.5MHz ↔ 6.0MHz ↵

3

PRE.

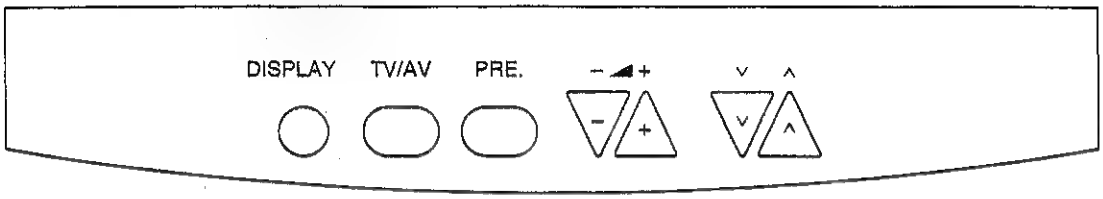
Push the "PRE." (PRESET) Button 4 times.



This returns the set to the normal viewing condition.

The selected sound system is automatically memorised.

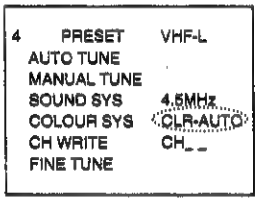
Colour System Selection



1

PRE.

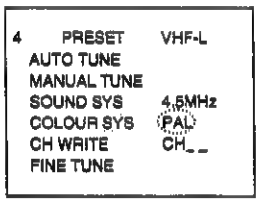
If a clear picture cannot be obtained even when a Broadcast or AV signal is received, push the "PRE." (PRESET) Button 4 times.



Colour System selection mode.

2

Push the Volume Up "+" or Down "–" Button repeatedly until the optimum image is produced.



You may improve the colour condition.
The colour system will change as shown.

CLR-AUTO↔PAL
↕
SECAM
↕
NTSC3.58 ↔ NTSC4.43

3

PRE.

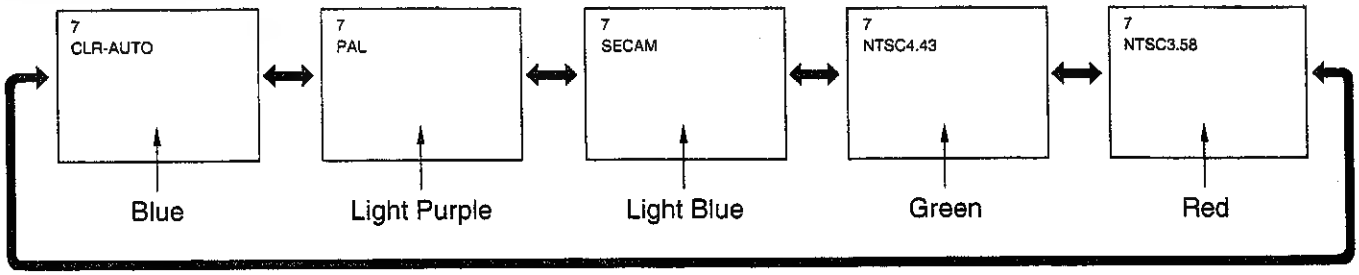
Push the "PRE." (PRESET) Button 3 times.

This returns the set to the normal viewing condition.

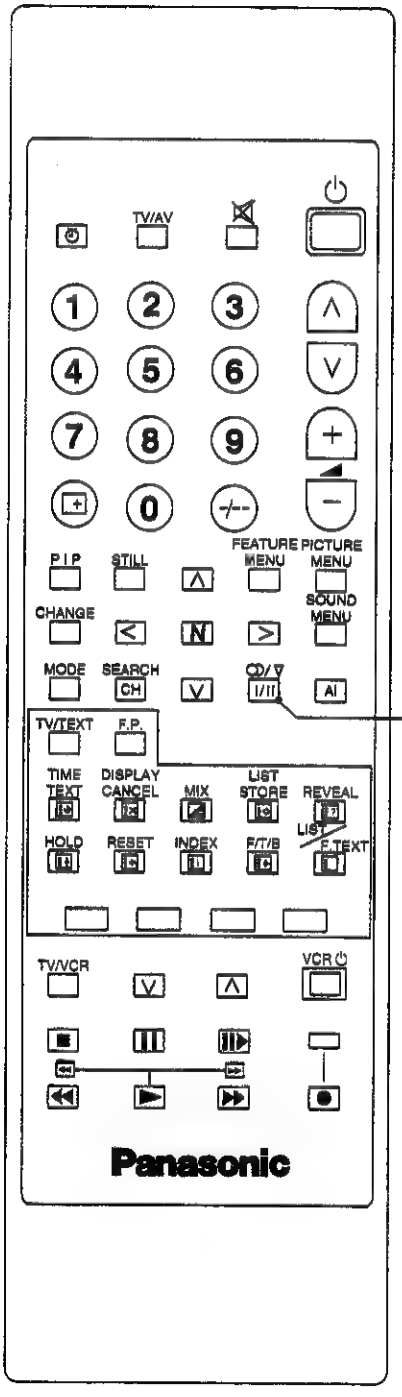
The selected colour system is automatically memorised.

Helpful Hint

When the signals are weak or cannot be received under the "Picture Noise Reduction" OFF condition, (Refer to pages 46 and 47), a colour on the background TV screen will appear according to the Colour System. Set by the above procedure.



Stereo Reception



1

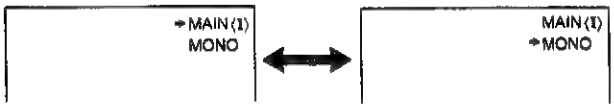
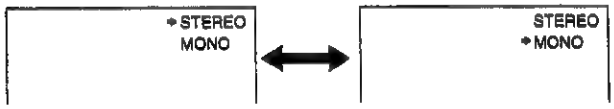
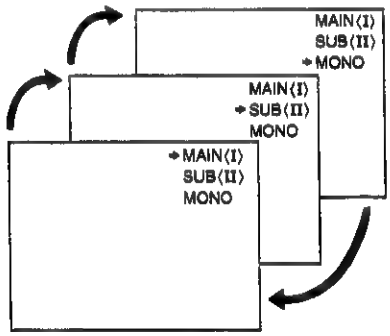
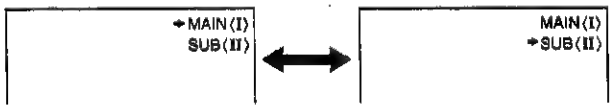
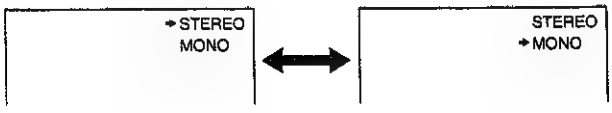
Stereo/Bilingual Sound Selection Button
Sound output mode can be selected by pushing the "Stereo/Bilingual Sound Selection" Button.
This button can also select "Mono" Mode.

The Stereo broadcast system is different for different countries. When a stereo, dual-sound track or monaural programme is being received, the on-screen display indicates to inform you of the type of broadcast.

Stereo System / Model No.	NICAM	A2 (German)	MONO
TX-33V30X TX-29V30X TX-25V30X	*	*	
TC-33V30H TC-29V30H TC-25V30H	*		
TX-33V30XE TX-29V30XE		*	
TC-29V30R TC-25V30R			*

*: Function available

Note:
If the stereo signal is weak or the receiving conditions are poor, it is recommended that you to switch to the "Mono" Mode.
When the broadcasting mode changes to "STEREO", "DUAL", or "1 MONO" after the user have selected "MONO" mode, change over to either "STEREO" or "MAIN" Modes will be made automatically.

Type of Stereo	Type of broadcast	On-screen indication	Remark
NICAM Digital Stereo	Regular broadcast (Standard Audio)		Normal use
	Regular + NICAM MONO I (MAIN〈I〉)		You can select either the "MAIN〈I〉" or "MONO" audio signal.
	NICAM STEREO		You can select either the "STEREO" or "MONO" mode.
	NICAM DUAL MONO (MAIN〈I〉/SUB〈II〉)		You can select either the "MAIN〈I〉, SUB〈II〉 or MONO".
A2 (German) Stereo	Regular broadcast (Standard Audio)		Normal use
	Bilingual or DUAL MONO: MAIN〈I〉/SUB〈II〉		You can select either the "MAIN〈I〉" or "SUB〈II〉" audio signal.
	STEREO		You can select either the "STEREO" or "MONO" mode.

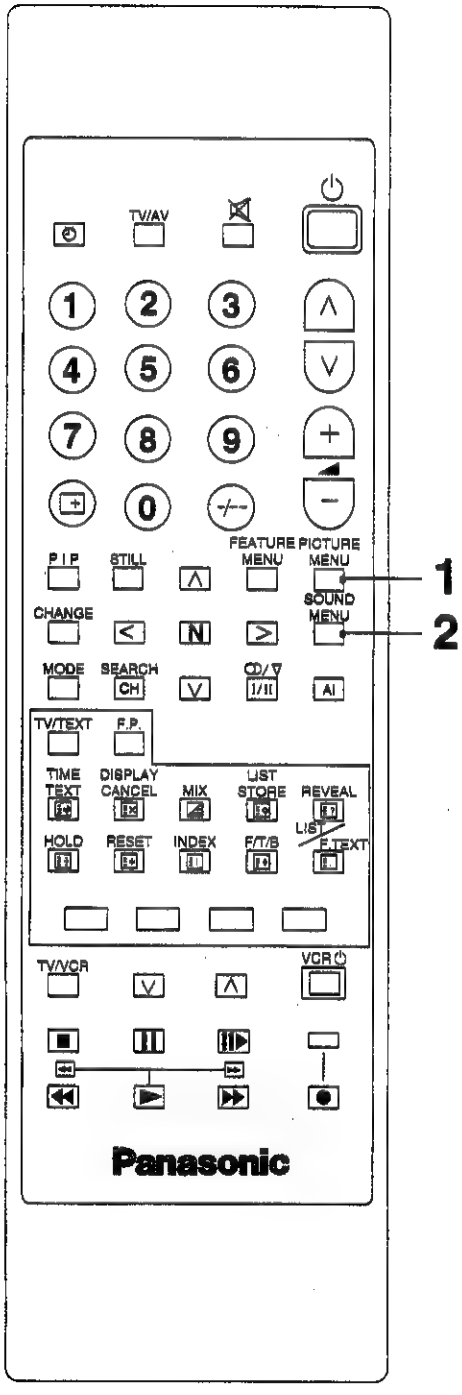
Note:

(1) When the power is switched ON, the mode is preset at either "MAIN 〈I〉 or STEREO".

(2) Even when the contents of the receiving signal undergo changes, selection mode is kept intact.

(3) When the receiving conditions deteriorate, listening will be easier if the mode is set to the "MONO" position, using the Stereo/Bilingual Sound selection button as shown on the opposite page.

Picture and Sound Menu Selection



1

PICTURE MENU

Picture Menu Select Operation
By pushing the "PICTURE MENU" Button, you can sequentially select any one of the three Picture Menus (STANDARD, DYNAMIC or MILD).

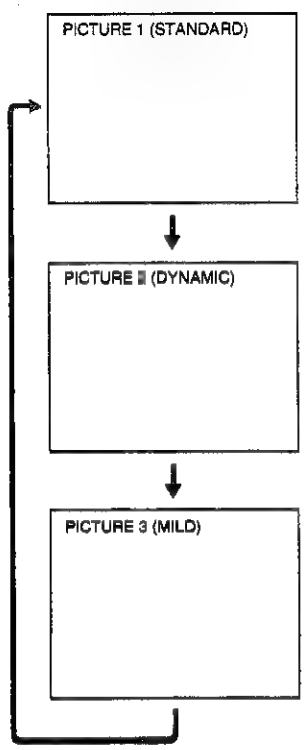
You can change the each level of each picture menu.
Please refer to pages 44 and 45.

2

SOUND MENU

Sound Menu Select Operation
By pushing the "SOUND MENU" Button, you can sequentially select one of three Sound Menus (STANDARD, MUSIC or SPEECH).

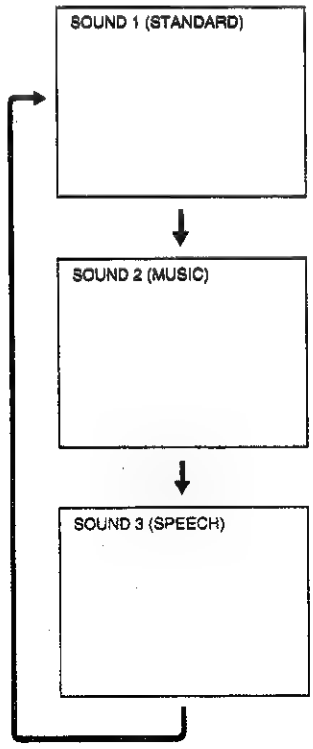
You can change the each level of each sound menu.
Please refer to pages 44 and 45.



PICTURE 1 (STANDARD)
For watching in normal (evening lighting) environments. This menu selects the normal level of Brightness and Contrast.

PICTURE 2 (DYNAMIC)
For watching in brighter environments. This menu selects a higher than normal level of Brightness and Contrast.

PICTURE 3 (MILD)
For watching in a dark room. This menu selects reduced levels of Brightness and Contrast.

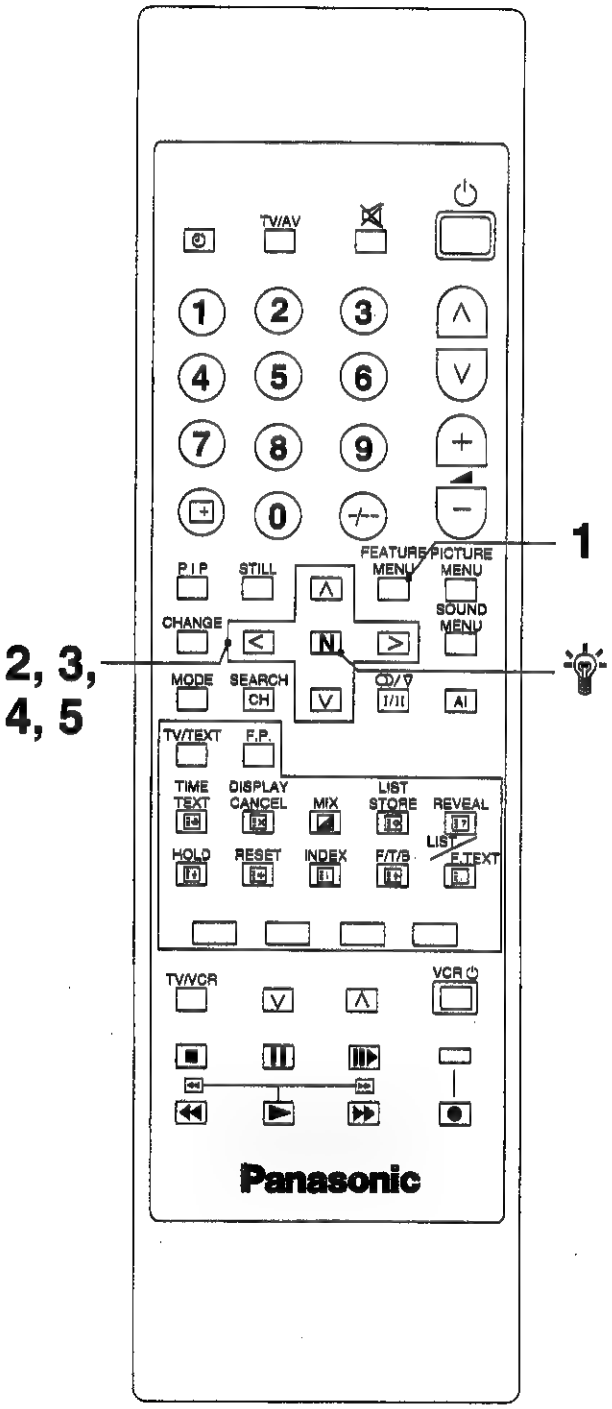


SOUND 1 (STANDARD)
For Normal use.

SOUND 2 (MUSIC)
For MUSIC programmes for example.

SOUND 3 (SPEECH)
For News programmes for example.

Feature Menu Operation (Picture and Sound)



1

FEATURE MENU

Push the "FEATURE MENU" Button.

Push again to cancel.

2

Select the feature you wish to change (Picture or Sound) by using the cursor Up "∧" or Down "∨" Button.

3

Push the cursor Left "<" or Right ">" Button.
The Yellow background colour will change between left and right positions.
NO is highlighted → Not Active
YES is highlighted → NEXT Menu

4

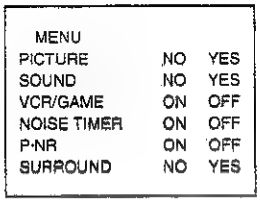
Select the function you wish to change by pushing the cursor Up "∧" or Down "∨" Button.

5

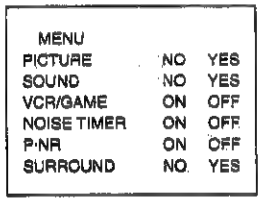
By pushing the cursor Left "<" or Right ">" Button, you can select the desired level of the function you have selected.

Helpful Hint

By pushing the Normal "N" Button while the Picture or Sound menu is displayed, the selected menu will be changed to the Normal Mode.
Normalization will not occur if the menu is not displayed when the "N" Button is pressed.



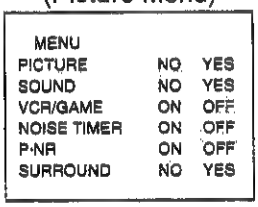
The "MENU" screen will appear.
You can change/select the condition of each item on the menu.



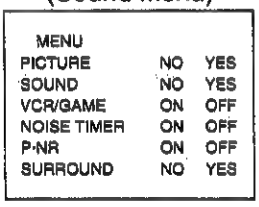
The background colour of the selected feature will change to blue. You can select the desired Feature Menu. Feature Menu will change as follows.

→ PICTURE → SOUND → VCR/GAME → NOISE TIMER →
SURROUND ← P·NR ←

(Picture Menu)

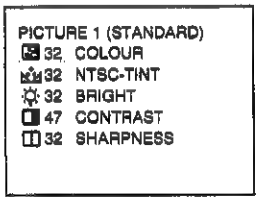


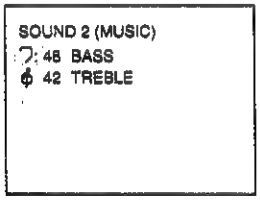
(Sound Menu)

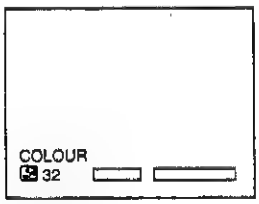


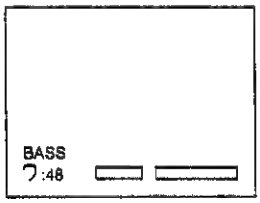
The yellow background colour will change to the selected function position.

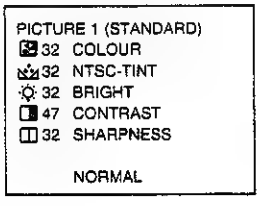
Note:
Even if the TV is not set to "NTSC" mode, "NTSC-TINT" will be displayed and level adjustment would be possible. But it would not function.

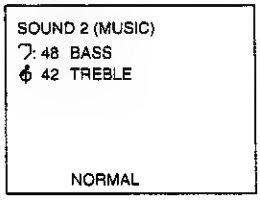










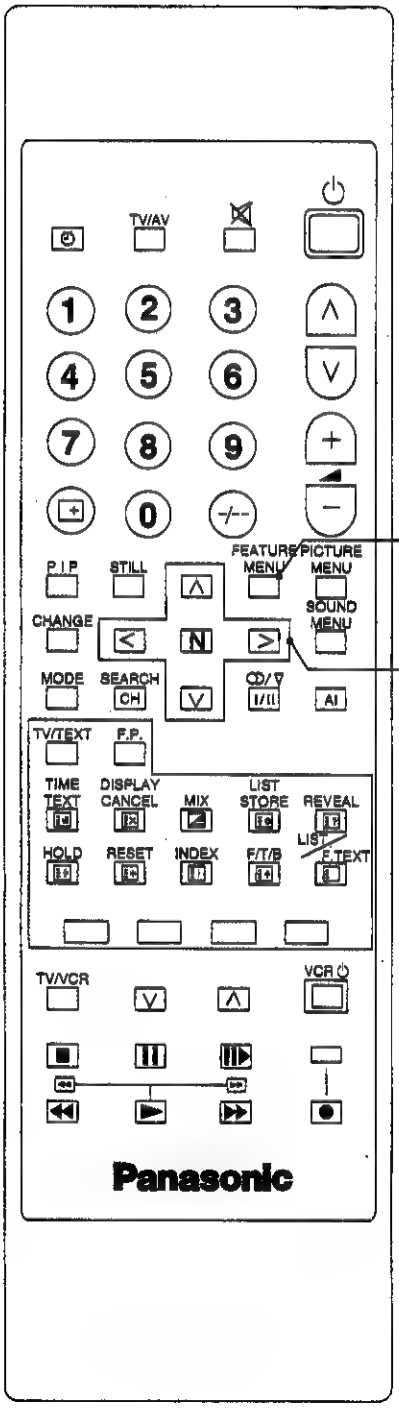


The Normal mode is the factory preset condition. Returning to this original condition is called "Normalisation".

Note:
The on-screen display for BALANCE is:
level: 32 (center position)
level bar: Red.

Continued on the next page. ➔

Feature Menu Operation (VCR/GAME, NOISE TIMER and P. NR)



1

FEATURE MENU

Push the "FEATURE MENU" Button.

Push again to cancel.

2

Select the feature you wish to change (VCR/GAME, NOISE TIMER, P. NR) by using the cursor Up "∧" or Down "∨" Button.

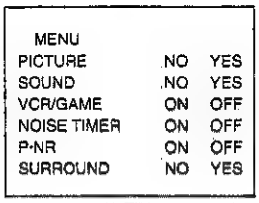
3

Push the cursor Left "<" or Right ">" Button.
The yellow background colour will change between left and right positions.
OFF is highlighted → Not Active
ON is highlighted → Active

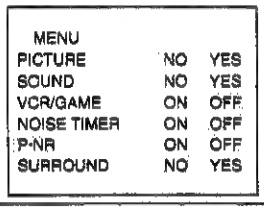
VCR/GAME Mode
Reproduction of irregular signals; such as certain TV games and rental video tapes, may be improved.

NOISE TIMER Mode
If the set is not switched off when the TV station stops broadcasting, it will automatically go to stand-by condition after 5 minutes.
Note:
This function will not operate when the Television receiver is in AV mode.

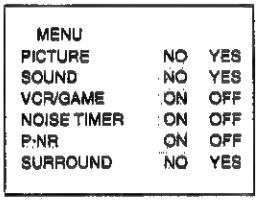
P. NR Mode
The Picture Noise Reduction System is designed to reduce Picture Noise during poor quality reception conditions.
Note:
When you want to watch a weak broadcast signal in spite of the disturbance, turn the Picture Noise Reduction ON.
The TV set will then be able to receive the weak signal without the background colour, which would otherwise appear if the TV signal is excessively weak.

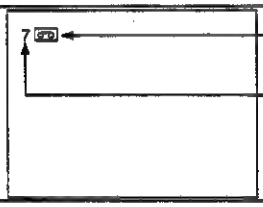


The "MENU" screen will appear.
You can change/select the each condition of each item on the menu.

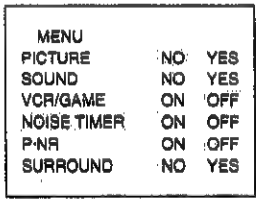


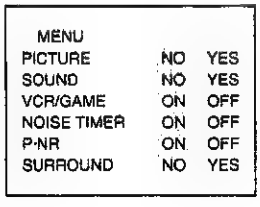
The background colour of the selected feature will change to blue.



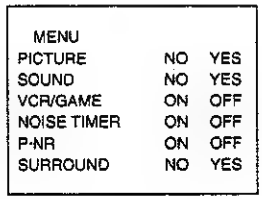


This function is only effective when the RF IN Terminal is used.



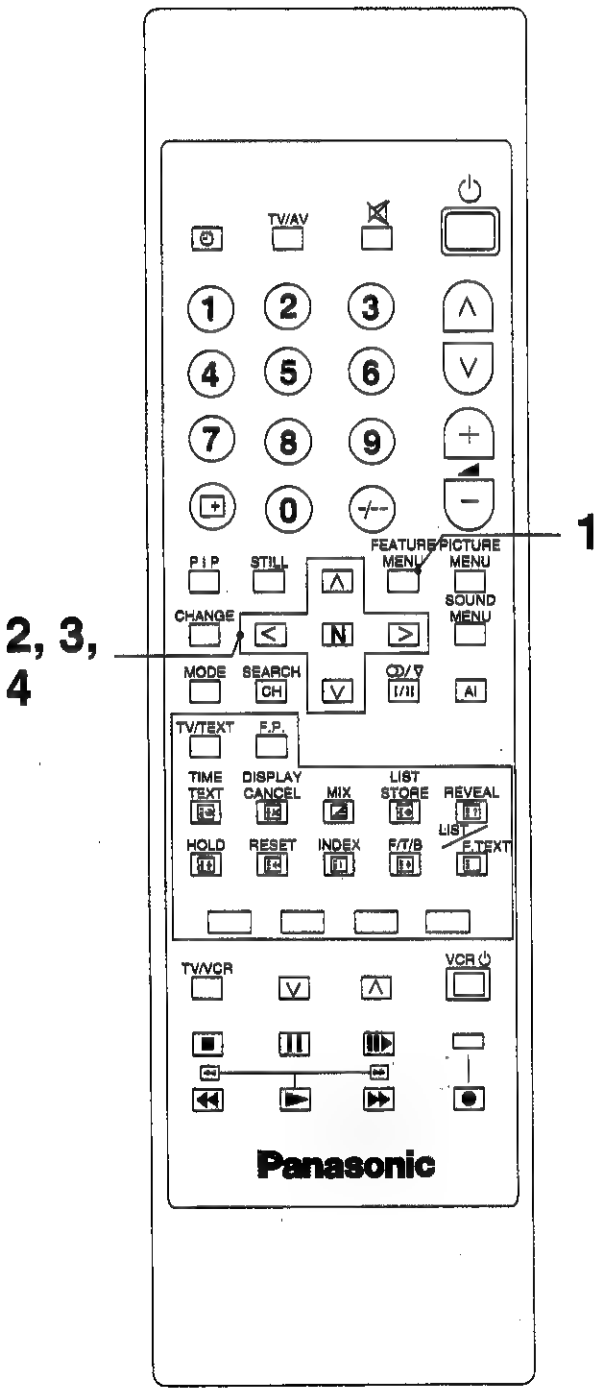


When the Picture Noise Reduction System is ON, picture noise will be softened and less sharp.



When the Picture Noise Reduction System is OFF, the picture will be sharper.
On the channel of a weak broadcast signal or no signal, the background colour on the TV screen will appear according to the receiving Colour System, refer to page 39.

Feature Menu Operation (Surround)



1

FEATURE MENU

Push the "FEATURE MENU" Button.

2

Select the Surround Feature by using the cursor Up "∧" or Down "∨" Button.

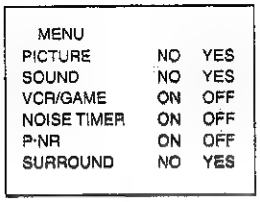
3

Push the cursor Left "<" or Right ">" Button.

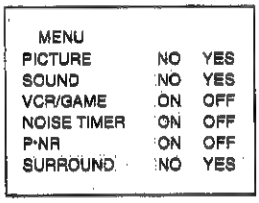
NO is highlighted → Not Active
YES is highlighted → NEXT Menu

4

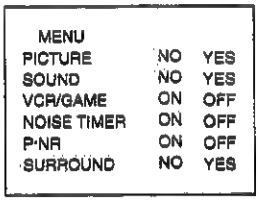
Select your desired function by pushing the cursor Up "∧" or Down "∨" Button.



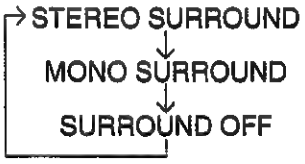
The "FEATURE MENU" screen will appear.
You can change/select the each condition of each item on the menu.



The background colour of the selected feature will change to blue.

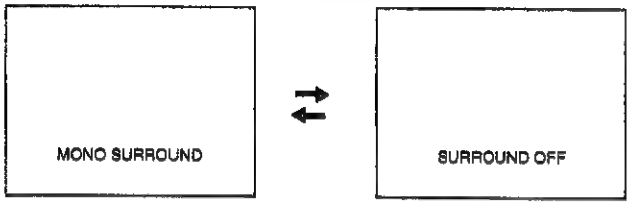
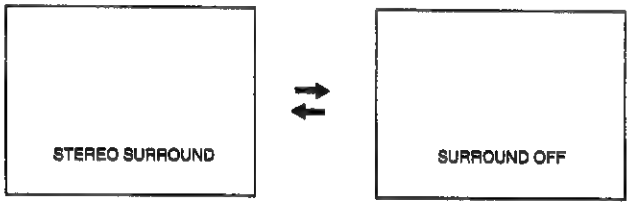
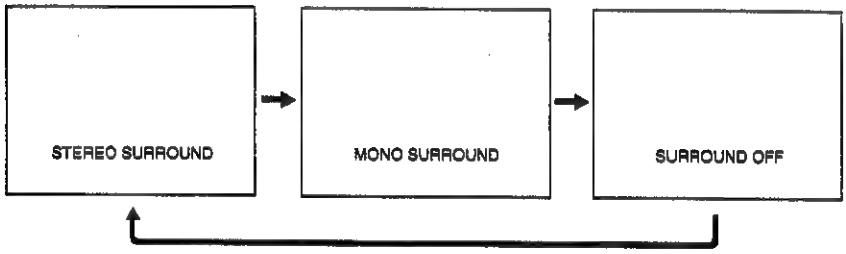


You can change the Surround effect. The indicator will change as follows.



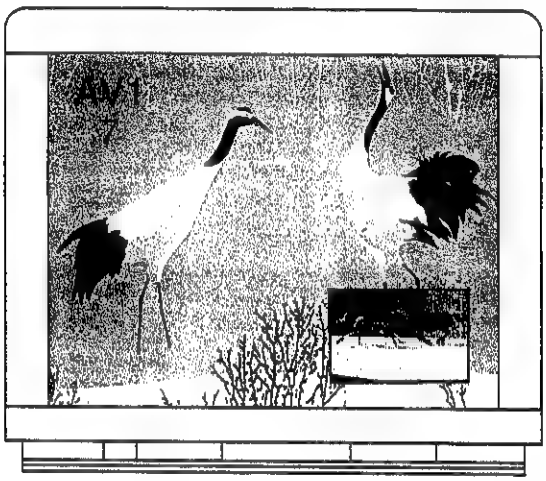
Continued on the next page.

On-screen display during surround mode.

	Type of broadcast	On-screen display	Remark
TV Mode	• MONO (Including STEREO switched to MONO by you) and BILINGUAL		You can select either "MONO SURROUND" or "SURROUND OFF".
TV Mode	• STEREO		You can select either "STEREO" or "SURROUND OFF".
AV Mode	• Select the AV Mode (AV1, AV2 and AV3)		You can select either of the three surround modes "STEREO/MONO/ OFF".

Picture in Picture Operation

With this advanced digital feature, you can use your VCR to enjoy a movie while still keeping up with the latest news. You actually see two sources at the same time: one on the main screen, the other inset on a subscreen. Main and subscreen images may be interchanged instantly, and the subscreen image can be shifted to any position of the main screen by remote control.



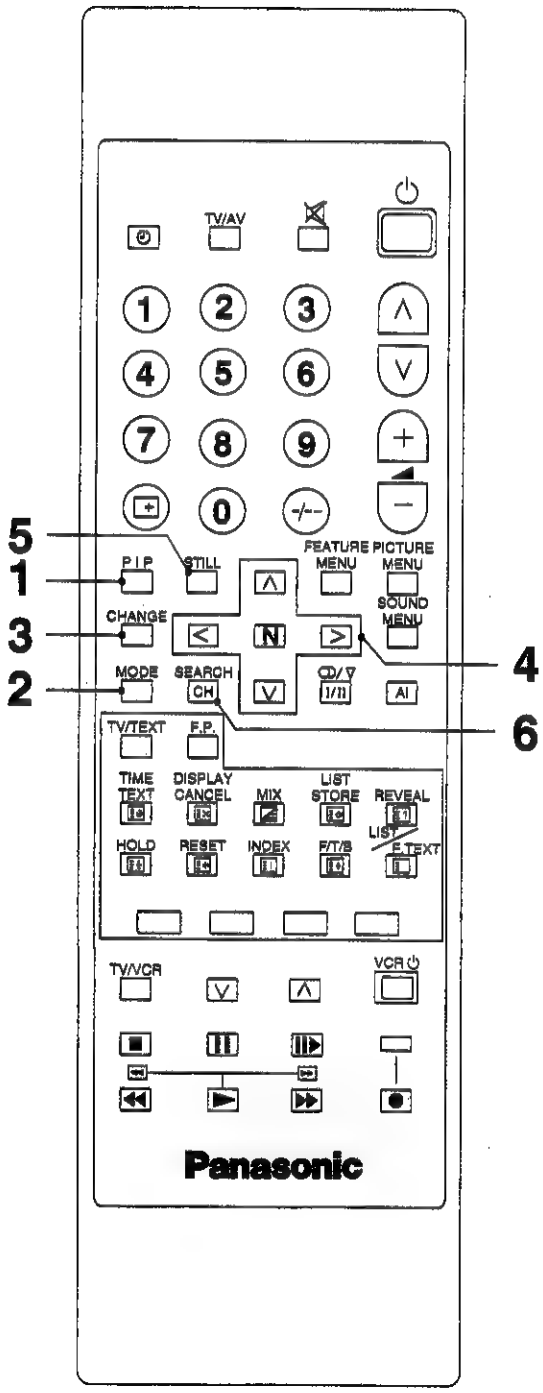
Helpful Hint

The size of the sub picture varies according to the colour system of the input signals due to the difference of field frequency (50 Hz or 60 Hz) as shown below.

Main Picture	Sub Picture	Size of Sub Picture
Same field frequency PAL ——— PAL NTSC 3.58 ——— NTSC 4.43 SECAM ——— PAL		STANDARD
NTSC 3.58, NTSC 4.43 PAL 60 Hz or SECAM 60 Hz (All 60 Hz field freq.)	PAL, SECAM or NTSC 50 Hz (All 50 Hz field freq.)	Slightly bigger than STANDARD
PAL, SECAM or NTSC 50 Hz (All 50 Hz field freq.)	NTSC 3.58, NTSC 4.43 PAL 60 Hz or SECAM 60 Hz (All 60 Hz field freq.)	Slightly smaller than STANDARD

Continued on the next page. ➔

Picture in Picture Operation



1

Picture in Picture Button
Push the "P I P" Button to superimpose a small picture in the main picture.

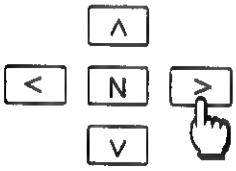
2

MODE Button
To change the mode of the sub picture, push the "MODE" Button.

3

CHANGE Button
Push the "CHANGE" Button to exchange from Main picture to Sub picture and vice versa.

4



Position Buttons
By pushing each "Position" Button, you can easily select the desired position of the sub picture on the screen.

Note:
By pushing the Normal "N" Button while the picture in picture mode is activated, the sub picture position will be changed to the bottom of the Right corner.

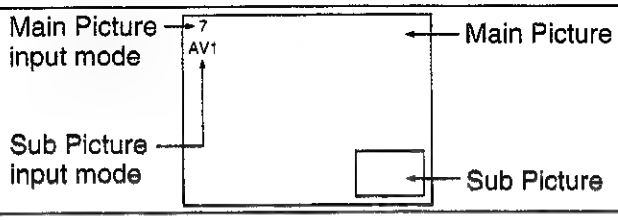
5

STILL Button
The Still function can be used to freeze the action on the screen and display a still picture.

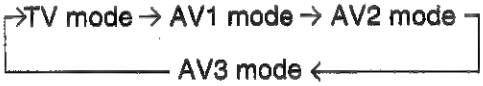
Push the "STILL" Button to freeze the moving picture into a still picture.
Push again to cancel.

6

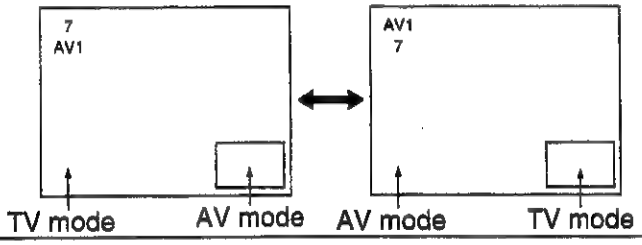
CH (Channel) SEARCH Button
This function can only be used when the Main Picture is in AV mode, and the Sub Picture is in TV mode.
By pushing this button, it is possible to search through all programmed positions and display a picture on the sub picture screen.

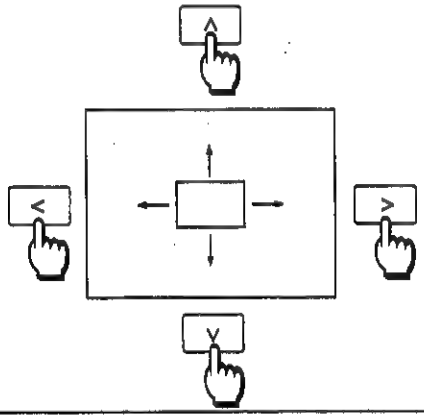


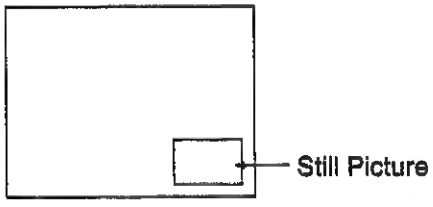
To cancel the Picture-in-Picture function:
Push the "PIP" Button.

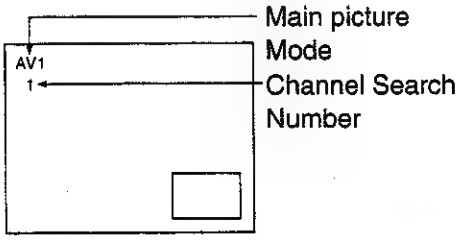


At every push of the "MODE" Button, the mode of the sub picture changes as shown at left.





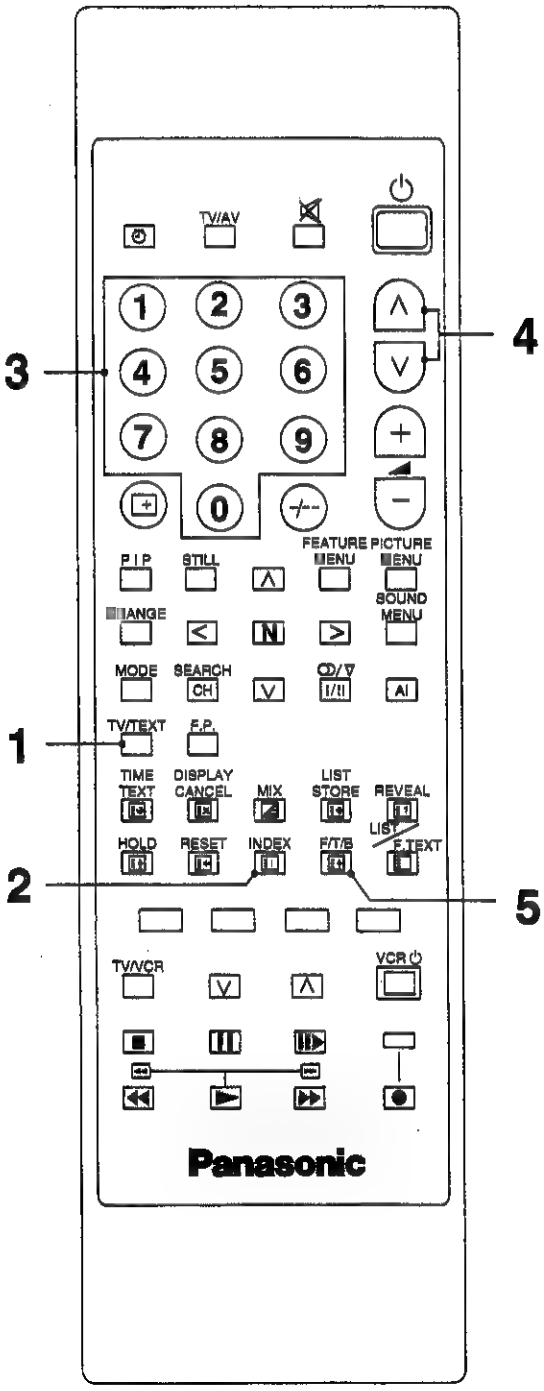




How to watch the TV programme

1. You can choose the desired TV programme by again pushing the "P I P" or "CH SEARCH" Button during the "Channel Search" operation. Then the selected Programme will be displayed on the sub picture screen.
2. Push the "CHANGE" Button to exchange from Main picture to Sub picture.

Basic Operation



A black bar briefly appears to indicate Teletext availability, when a channel with Teletext is selected. If the station broadcasting Teletext has its own title transmitted in the Teletext signal for inclusion in this position, then this title will appear inside the black bar.

1

TV/TEXT Selection Button
Push this button to select the "TEXT" mode.

To return to the TV mode, push this button again.

2

INDEX Button
Push this button, in "F. TEXT" Mode, to return to the index page.

Depending on the way information is transmitted by each TV channel, this "INDEX" Button may need to be pushed more than once to return to the main index page.

3

Numerical Buttons
To select the required page of TELETEXT, use these buttons "0" to "9".

4

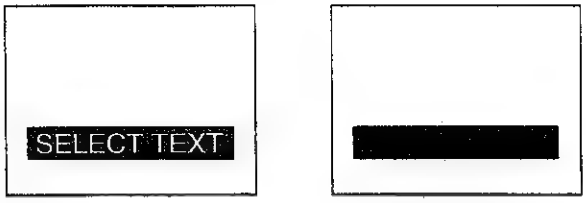
Page Number Up/Down Buttons
Push the Page Number Up "∧" Button to step up to the next higher TELETEXT page.

Push the Page Number Down "∨" Button to step down to the next lower TELETEXT page.

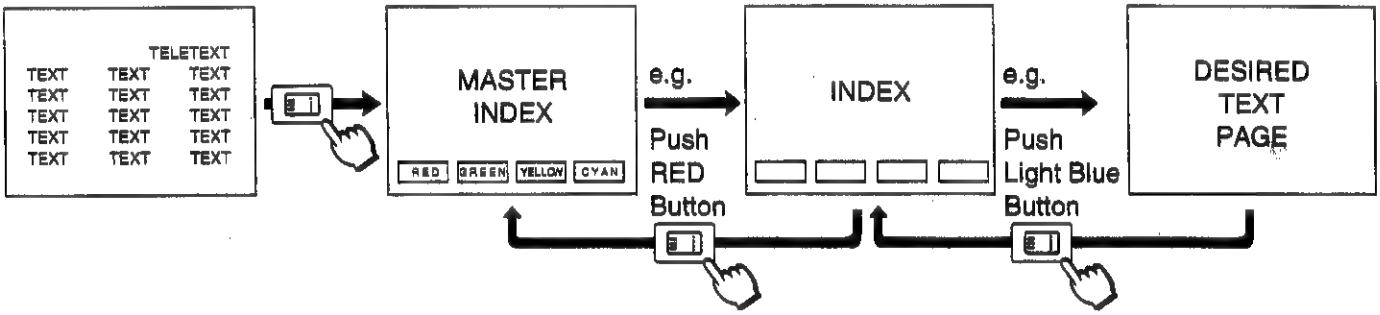
5

Full/Top/Bottom Button
This function is used when characters on the TV screen are hard to read.
Pushing the 1st time expands the upper half of the screen only.
Pushing the 2nd time expands the lower half of the screen only.
Pushing the 3rd time returns the display to its original size.

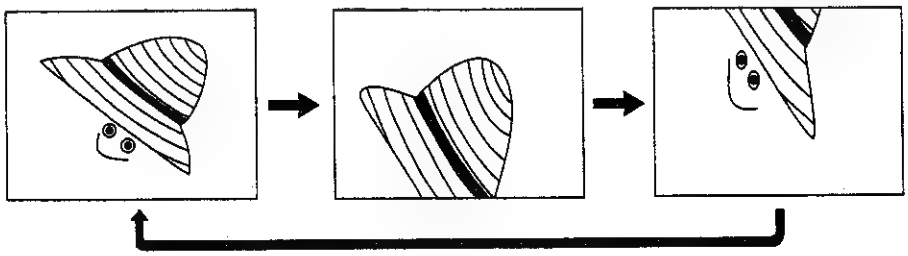
For example:



Note:
When TELETEXT is selected after the TV is switched ON, the first page displayed is that stored in the red position in LIST mode.
Refer to pages 60 and 61.

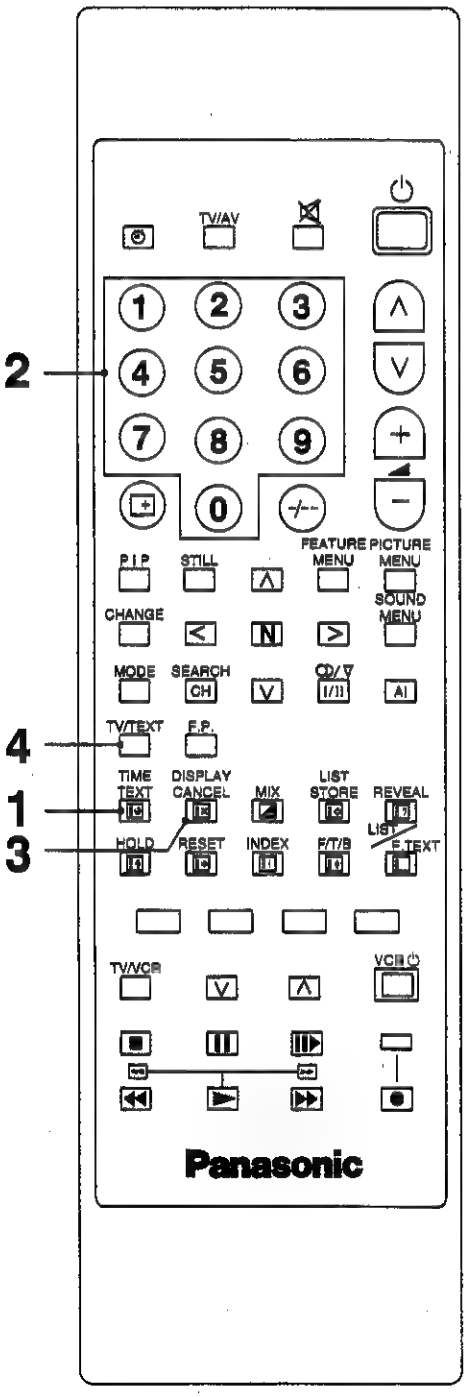


Note:
All Page Numbers consist of 3 digits, the lowest being 100 and the highest being 899, and the first being between 1 and 8 inclusive.



Note:
When the next page is selected under expanded conditions, the upper half of the next page is expanded for display.

Text Sub Page Access



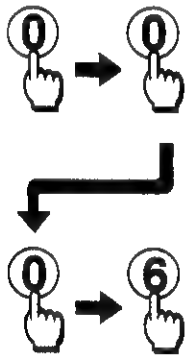
When a Teletext Information Page exceeds more than one screen of information, it may take some time for the automatic changing of the sub-pages to reach the sub-page you require.
It is possible to enter your required sub-page and continue watching the normal programme until the correct sub-page is found.

1

(Teletext must be selected first.)
The Required Teletext page must be selected.
(The Page in which sub-pages exist.)

Push the "TIME TEXT" Button.

2



Enter the desired sub-page number while the "T****" prompt is on screen.

Note:
Sub-page selection must be inserted as a 4 Digit Number.

i.e. for sub-page 6 the numbers "0-0-0-6" must be entered.

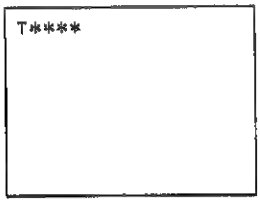
3

Push the "DISPLAY CANCEL" Button to view the normal TV programme.

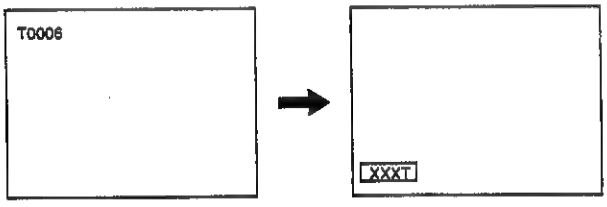
4

Push the "TV/TEXT Selection" Button to display the received sub-page.
To clear the sub-coded page, enter a new page number or push the "RESET" Button.

Note:
It is not possible to select another Programme Number during sub-page operation, without cancelling the sub-page search operation.

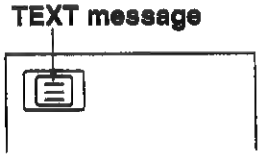


At that time, "T****" will be displayed at the top left of the screen.



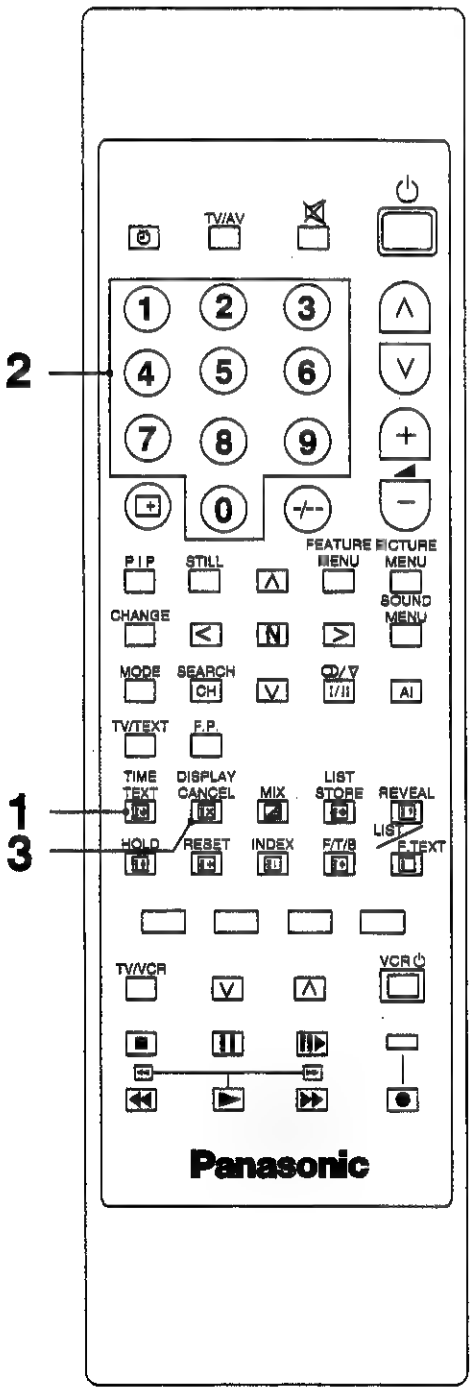
In "LIST" mode the letter "T" will appear in the current coloured box at the bottom left of the screen.
This is an indication that the sub-code has been set.

Note:
If no sub page exists for the Page for which this function has been set, the system will wait indefinitely, until it has been cancelled.



When the desired sub-page is received, the "TEXT" message appears at the top left of the screen.

Text ALARM Page Access

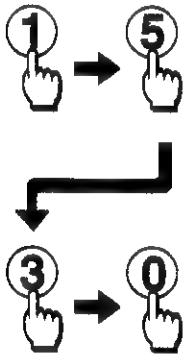


This function is used for selected pages only.
e.g. The Teletext ALARM page.
Refer to the subject index page for page location.

1

(Teletext must be selected first.)
The Text ALARM Page must be selected.
Push the "TIME TEXT" Button.

2



This feature uses a 24 hour clock, e.g. 3:30 pm = 1530.

To set the time at which the ALARM page is to be displayed, e.g. 1530, push buttons 1, 5, 3, 0 consecutively.
The "T∗∗∗∗" display will change to "T1530" momentarily then return to the current page number.

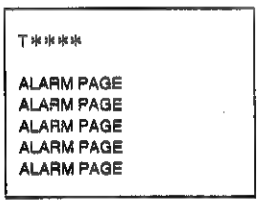
3

Push the "DISPLAY CANCEL" Button to view the TV broadcast.

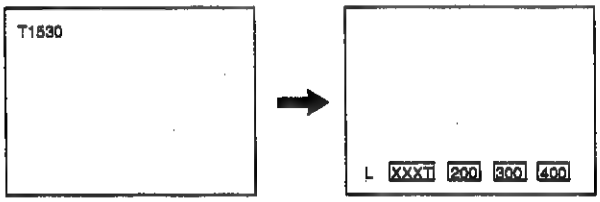
Helpful Hint

To cancel this feature
Push the "TV/TEXT Selection" Button to return to normal viewing.
If you wish to select other teletext pages, push the "RESET" Button.

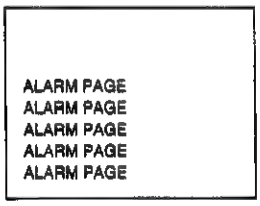
Note:
This function is not currently transmitted in some countries.



At that time, "T****" will be displayed at the top left of the screen; now enter the time at which this alarm page should be displayed using buttons 0 to 9 on the remote control.

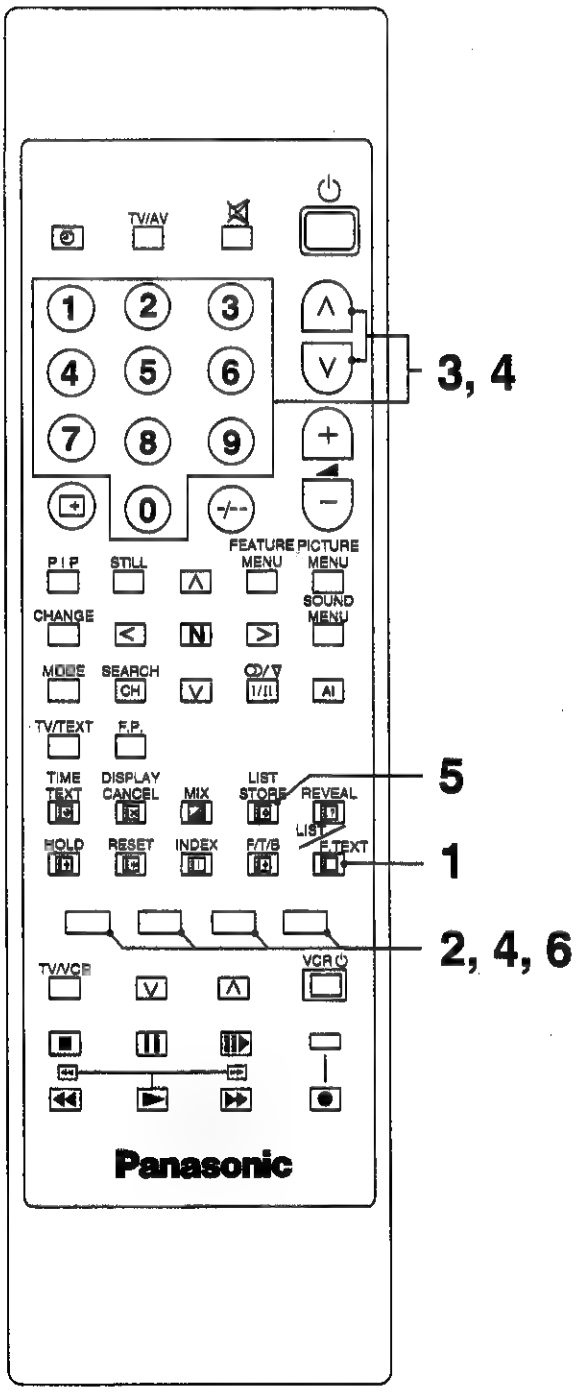


In "LIST" mode the letter "T" will appear in the current coloured box at the bottom of the screen indicating that the alarm page has been set.



At 15:30 the alarm page will be displayed.

List Mode Access



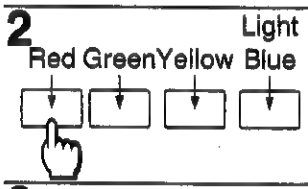
LIST mode is a convenient way of accessing some teletext pages without the need to enter page numbers.
In this mode, 4 page numbers can be preset for each Programme Number 1 to 10 (1 to 25 only for TX-29/33V30XE). A maximum of 40 (100 only for TX-29/33V30XE) pages can be programmed. (i.e. 4 pages × 10 (1 to 25 only for TX-29/33V30XE) Programme Numbers)
Any one of these 4 pages can be displayed instantly by pushing the corresponding "colour coded" Button on the Remote Control.

List Mode Page Memory Allocation

1

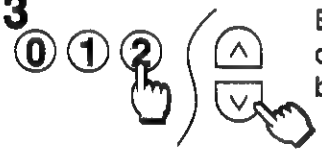
(Teletext must be selected first.)
Select the "LIST" Mode by pushing the "LIST/F. TEXT" Button.
Pushing this Button will switch between the "LIST and F. TEXT" mode.

2



To select a memory position, push one of the "colour-coded" Buttons.

3



Enter the page number of the desired Teletext page by using buttons "0" to "9".

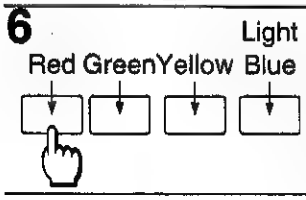
4

Repeat steps 2 and 3 for the remaining positions if required.

5

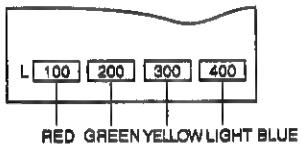
Push and hold the "LIST STORE" Button until the background of the 4 numbers changes from Black to White.

6

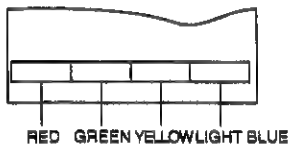


Any one of these 4 pages can then be displayed instantly by pushing the corresponding "colour coded" Button on the Remote Control.

List mode



F. TEXT mode



Note:
F. TEXT Mode is currently not transmitted within Australia.

You can also use the "Programme Up or Down" Buttons to enter the page number.

Up to 4 page numbers can be preset for each Programme Number 1 to 10 (1 to 25 only for TX-29/33V30XE).

This stores these page numbers into memory.

Every time a "List" Mode is selected, these 4 page numbers will flash until all 4 pages have been received and stored in memory.

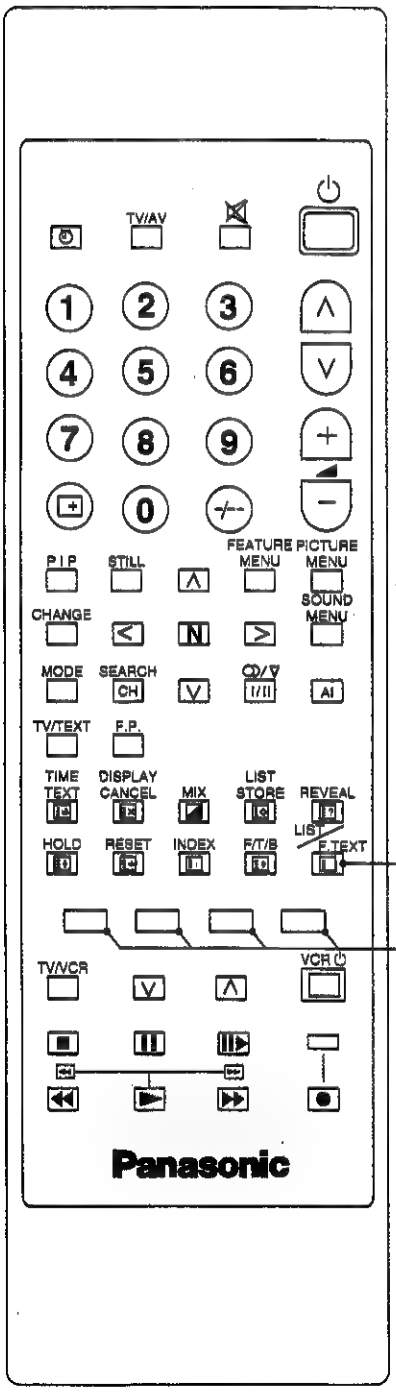
Note:

(1) If a new page number is entered for viewing, it will not replace the previous number in the memory at that position unless the "LIST STORE" Button is pushed and held down for a few seconds.
The 4 page numbers will be reset to the preset numbers when either the "Reset" Button is pushed or the Programme Number is changed, or the mode is changed to F. TEXT and then returned to LIST mode again, or the TV set is turned off.

(2) The 4 preset page numbers can be changed when required by following procedures 2 to 5 above.

(3) Page number presetting can only be performed on Programme Numbers 1 to 10 (1 to 25 only for TX-29/33V30XE).

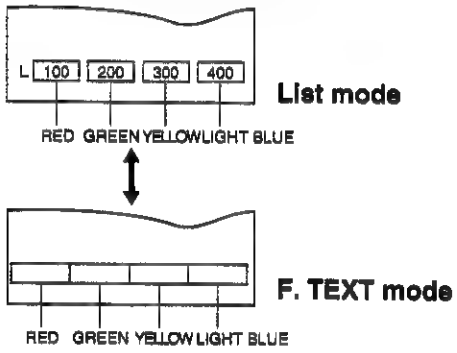
Fast Text (F. TEXT) Mode Access



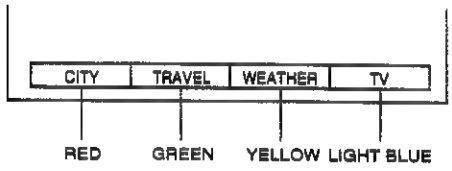
In "F. TEXT" mode, select the desired teletext information by pushing one of the "colour-coded" Buttons on the remote control which corresponds with the coloured subject title on the screen.

1

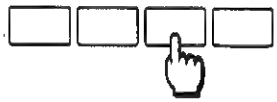
(Teletext must be selected first.)
Push the "LIST/F. TEXT" Button to select "F. TEXT".



e.g. The on-screen display with these subject titles.



2



e.g. Viewing the "Weather" page. Push the "Yellow" Button on the remote control.

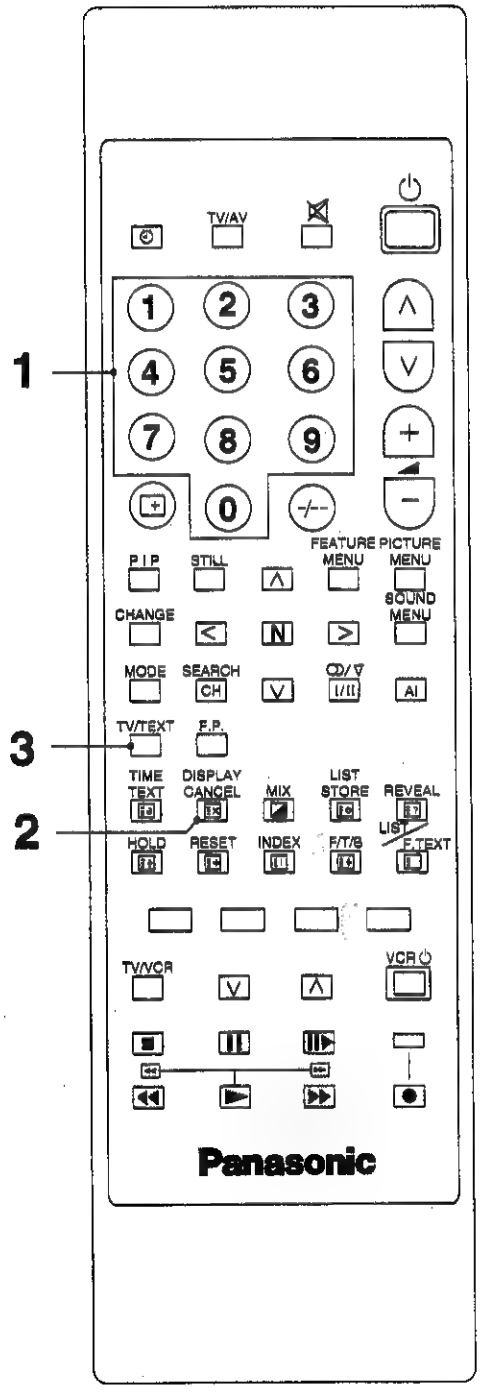
3

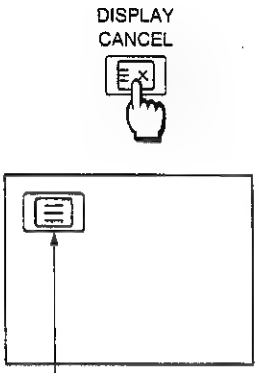
Follow the same procedure to access other colour coded information pages.

Note:

1. Subject's titles and their sequence for access are set-up by TV broadcast stations; they are not user definable with the Remote Control.
2. It is a convenient way of accessing some Teletext pages without the need to enter page numbers.
3. This function is not currently transmitted in some countries.

Display Cancel Operation





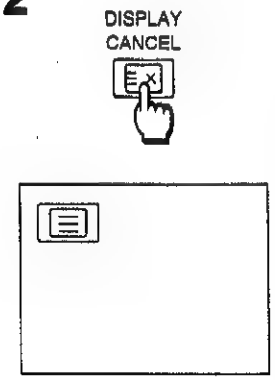
(Teletext must be selected first.)
While a selected page is being searched for, the normal TV picture can be viewed by pushing this button.
When the page is found, the "TEXT" message will be displayed at the top left corner of the screen.
Pushing the "TV/TEXT Selection" Button will display the selected page.

Method (To watch a newsflash page)

1

In the text mode, select a newsflash page.
e.g. Page No. 155

2

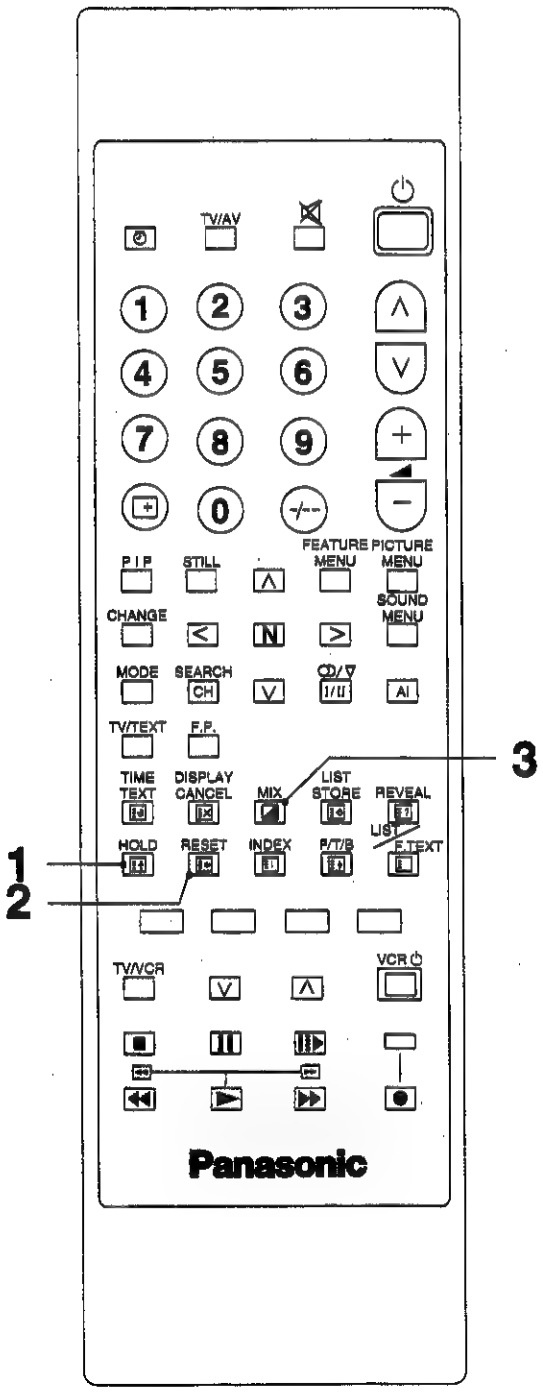


Push the "Display Cancel" Button.
The TV screen is switched from the Text page to the normal TV programme.
Every time a newsflash information update is available, the newsflash information will be displayed at the bottom of the screen.
When that page is found, a message will be displayed at the Top left corner of the screen.

3

Push the "TV/TEXT Selection" Button.

Useful Functions for Teletext (Hold, Reset and Mix)

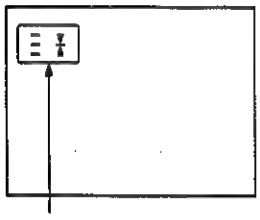


These functions can be used either LIST mode or F. TEXT mode.

1

Hold Button
The selected teletext page may consist of a number of sub-pages. These sub-pages are rotated automatically, unless the "Hold" function has been activated.

Push this button, and the sub-page will stay on the screen.



Hold message

The "Hold" message symbol will be displayed at the top left corner of the screen.

To cancel the "Hold", push this button again.

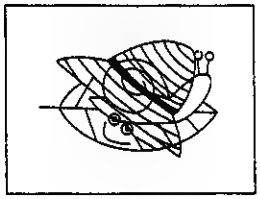
2

Reset Button
Pushing this button in the "F. TEXT" mode will reset the present page to page 40 (100 only for TX-29/33V30XE) and the associated colour subject.

Pushing this button in the "LIST" mode will reset the present page to the "RED" colour coded page number.

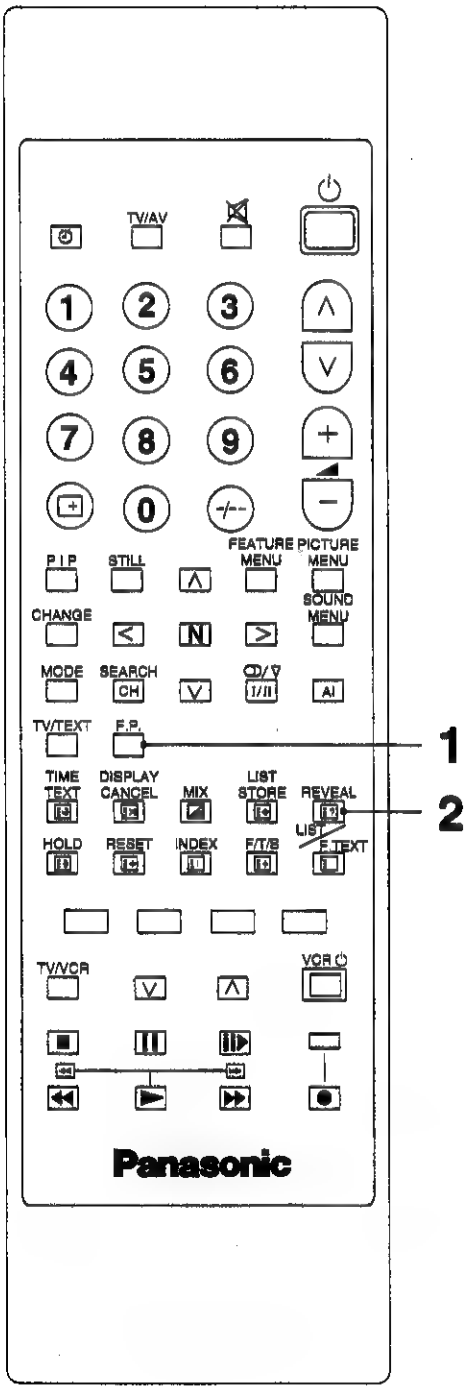
3

Mix Button
Push this button, and the Teletext page will appear superimposed over the TV programme.



To revert back to the TV programme alone, push the "TV/TEXT Selection" Button.

Useful Functions for Teletext (Favourite Page and Reveal)



1

Favourite Page Selection Button

This feature will store a favorite page in the TV memory and will be instantly recalled when pushed. To store such a page the TV must be in LIST mode and the programme position must be from 1-10 (1 to 25 only for TX-29/33V30XE).

Push the Light Blue button, choose your page number, then push LIST STORE button.

The page number is now stored.

Push the F. P. button to recall this page even in TV mode.

2

Reveal Button

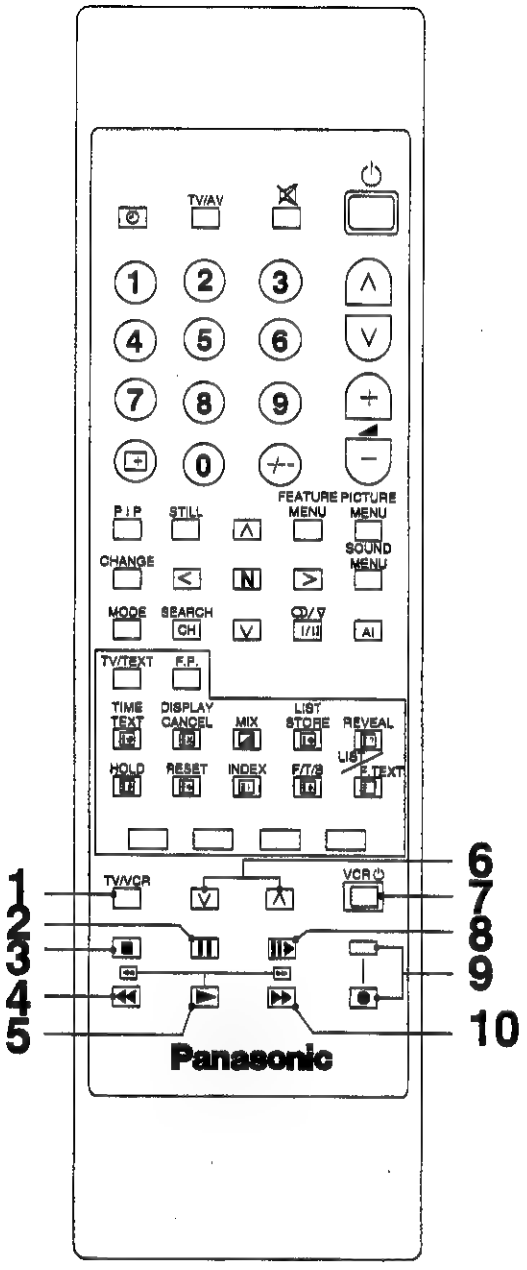
Some pages contain concealed information.

e.g. the solution to a riddle or a puzzle.

To reveal this information, push the "REVEAL" Button.

To conceal this information again, push the "REVEAL" Button again.

This Remote Control Transmitter is designed to be used with selected Panasonic/National VCRs.
Some model VCRs have different functions, so please refer to the individual VCR instruction booklet to ensure compatibility.



1 TV/VCR

TV/VCR Selection Button

2

Pause/Still Button

3

Stop Button

4

Rew (Rewind)/Review Button

5

Play Button

6

Programme Number Up and Down Buttons for VCR

7 VCR

VCR Power Button

8

Still Advance Button

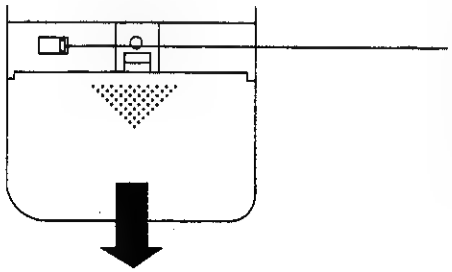
9

Rec (Record) Buttons

10

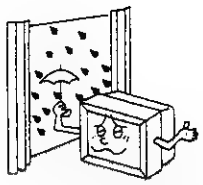
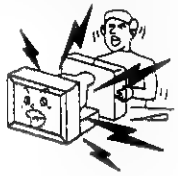
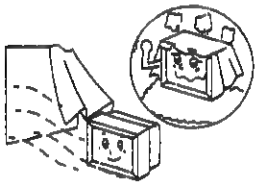
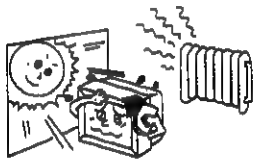
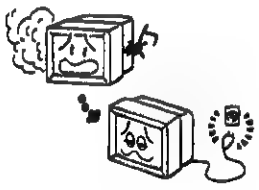
FF (Fast Forward)/Cue Button

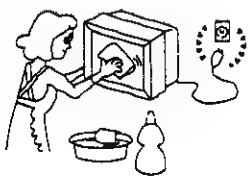
(Rear Side)



Open the cover
(Push down and Slide the cover out.)

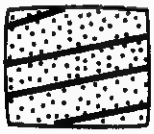
VCR Mode Select Switch
When used with normal Panasonic/National VCR, set this switch to "6B".
If operation cannot be carried out, set to "8B".

	To prevent damage which may result in fire or electrical shock hazard, do not expose the TV set to rain or excessive moisture.
	**High Voltage:** Do not remove the rear cover as live parts are accessible when the rear cover is removed.
	Adequate ventilation is essential to prevent failure of electrical components.
	Avoid exposing the TV set to direct sunlight and other sources of heat.
	Remove the AC plug from the wall outlet (Power point) when the TV set is not used for a prolonged period of time.
	Do not use this set if abnormal operation occurs. Ex: Smoke, odd sounds, or smells. Turn the power switch off and disconnect the AC plug, if you notice any unusual operation.

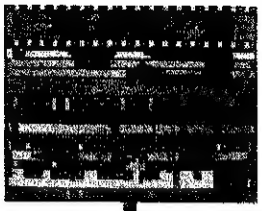
	**Cabinet and Picture Tube Care** The cabinet and picture tube can be kept in good condition by simply wiping with a clean, dust-free cloth moistened with mild detergent and water. Do not use solutions containing benzol, petroleum or a chemical cloth. For safety, remove the AC plug from the wall outlet. **Speaker grill Care** Remove dust with a vacuum cleaner after attaching a brush adaptor. Do not let the vacuum cleaner pipe come into direct contact with the speaker (without the adaptor). **CAUTION:** When the cabinet and the speaker grill are scratched (with a nail or hard object) or struck by similar materials, it may become deformed. Also, the speaker grill may be easily pierced by a sharp object.

Troubleshooting

Before you call for service, determine the symptoms and make a few simple checks as shown below.

Symptoms		Checks
Picture	**Sound**	
Snowy Picture	Noisy Sound	Aerial Location, direction or Connections
Multiple Image	Normal Sound	Aerial Location, direction or Connections
Interference	Noisy Sound	Electrical Appliances Cars/Motorcycles Fluorescent Lamps
Normal Picture	No Sound	Volume (Check whether the mute function has been activated on the Remote Control.)
No Picture	No Sound	Not plugged into AC outlet Not switched on Contrast and Brightness/Volume setting (Check by pushing the Power Switch or Stand-by Button on the Remote Control.)
No Colour	Normal Sound	Colour Control
 Scrambled	Normal or Weak Sound	Retune Channels
Coloured Patches	Normal Sound	Magnetic interference from unshielded equipment Receiver moved while "ON" Turn the TV set off for 30 mins, using the "Power" Button on the TV set.
No Colour	Noisy Sound	Sound System (Refer to page 38) Colour System (Refer to page 39)

For Teletext equipped model only. (TX-25V30X, TX-29V30X, TX-33V30X, TX-29V30XE, TX-33V30XE)



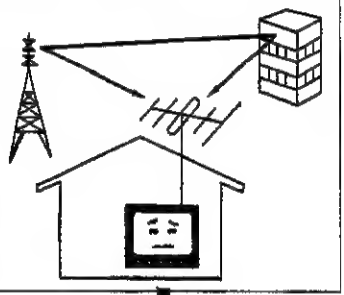
- MISSING CHARACTERS
- MALFUNCTIONS

- GHOSTS

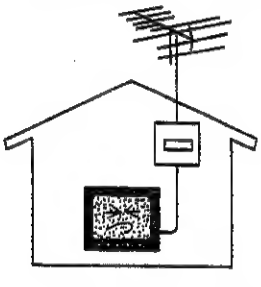
- SNOWY

- SPURIOUS
- CROSS MODULATION
- INTERFERENCES

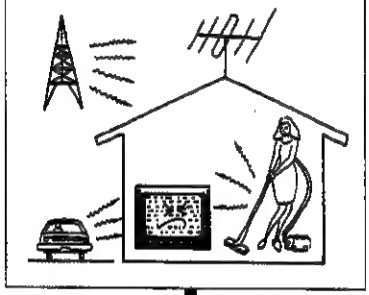
CAUSE



CAUSE



CAUSE



CHECK STEPS

1. Aerial connection.
2. Missmatching of aerial cable.
3. Aerial direction.

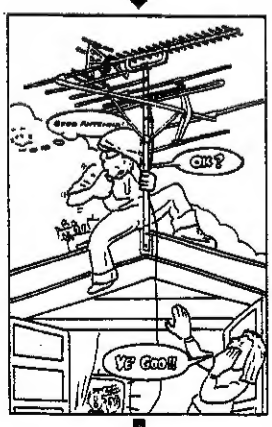
CHECK STEPS

1. Aerial connection.
2. Missmatching of aerial cable.
3. Booster or distribution amplifier unit.
4. Input signal strength should be more than 55dB.

CHECK STEPS

1. Booster.
2. Too much input signal to Booster.
3. Interference from other equipment.

Do it yourself



Still no good

CONTACT PANASONIC AUTHORIZED SERVICE CENTER.

SPECIFICATIONS

Power Source

AC 110-240 V, 50/60 Hz
(TX-29V30XE can only be operated on AC 220 V, 50 Hz)

Power Consumption

TX-25V30 series
TC-25V30 series
185 W
Stand-by condition 16 W

TX-29V30 series
TC-29V30 series
215 W
Stand-by condition 16 W
(Only for TX-29V30XE
195 W
Stand-by condition 10 W)

TX-33V30 series
TC-33V30 series
250 W
Stand-by condition 16 W

Receiving System

21 Systems		Function
1	PAL B, G	Reception of broadcasts and Playback from Video Tape Recorders
2	PAL I	
3	PAL D	
4	SECAM B, G	
5	SECAM D, K	
6	NTSC M	
7	NTSC 4.43/5.5 MHz	Playback from Special Video Tape Recorders
8	NTSC 4.43/6.0 MHz	
9	NTSC 4.43/6.5 MHz	
10	NTSC 3.58/5.5 MHz	
11	NTSC 3.58/6.0 MHz	
12	NTSC 3.58/6.5 MHz	
13	SECAM I	
14	SECAM L	
15	PAL 60 Hz/5.5 MHz	Playback from Special Disc Players and Special VCR's
16	PAL 60 Hz/6.0 MHz	
17	PAL 60 Hz/6.5 MHz	
18	SECAM 60 Hz/5.5 MHz	
19	SECAM 60 Hz/6.0 MHz	
20	SECAM 60 Hz/6.5 MHz	
21	NTSC 50 Hz/4.5 MHz	

Receiving Channels

Regular TV

VHF BAND

2-12	(PAL/SECAM B)
1-11	(AUST. and N.Z.) (PAL B)
1-12	(PAL/SECAM D)
1-12	(NTSC M Japan)
2-13	(NTSC M U.S.A.)

UHF BAND

21-69	(PAL G, I/SECAM G, K)
28-69	(AUST.) (PAL G)
13-56	(PAL D)
13-62	(NTSC M Japan)
14-69	(NTSC M U.S.A.)

CATV

S1-S20 (For TX-29V30XE and TX-33V30XE models only)

SPECIFICATIONS

Tuning System

Voltage synthesizer

Picture Tube

	Type 25	Type 29	Type 33
Overall Picture tube measured diagonally	63 cm	72 cm	84 cm
Viewable Picture tube measured diagonally	59 cm	68 cm	78 cm
CRT Deflection	108°	108°	108°

Audio Output

TX-25V30 series	TX-29V30 series	TX-33V30 series
TC-25V30 series	TC-29V30 series	TC-33V30 series
7W (Max.) × 2	12W (Max.) × 2	12W (Max.) × 2

Headphones

Impedance 8Ω

Aerial Impedance

75Ω Unbalanced coaxial

Video/Audio Terminals

AV 1, 2, 3	S-Video In	Y: 1.0 Vp-p, 75Ω C: 0.3 Vp-p, 75Ω
	Video In	1 Vp-p, 75Ω
	Audio In	Approx. 400 mV 47 KΩ
	Video In	
Monitor Out	Video Out	1 Vp-p, 75Ω
	Audio Out	Approx. 400 mV 1 KΩ

Accessories Supplied

Remote control
R6 (AA) Battery × 2

Optional Accessories

	TX-25V30 series TC-25V30 series	TX-29V30 series TC-29V30 series	TX-33V30 series TC-33V30 series
Top Tray	TY-TB3	TY-TB3	TY-TB3
Set Stand	TY-G25V30	TY-G29V30	TY-G33V30

Dimensions (W × D × H)

TX-25V30 series TC-25V30 series	TX-29V30 series TC-29V30 series	TX-33V30 series TC-33V30 series
606 mm × 461 mm × 504 mm	668 mm × 513 mm × 551 mm	770 mm x 543 mm x 640 mm

Weight (Mass)

TX-25V30 series TC-25V30 series	TX-29V30 series TC-29V30 series	TX-33V30 series TC-33V30 series
33.0 kg (Net)	43.0 kg (Net)	60.0 kg (Net)

Note:
Design and Specifications are subject to change without notice.
Weight and Dimensions shown are approximate.

Customer's Record

The serial number of this product can be found on its rear cover. You should note this serial number in the space provided below and retain this book as a permanent record of your purchase to aid in identification in the event of theft or loss.

Model Number TX-33V30 series/TC-33V30 series
TX-29V30 series/TC-29V30 series
TX-25V30 series/TC-25V30 series

Serial Number _____

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Printed in Japan
S0592